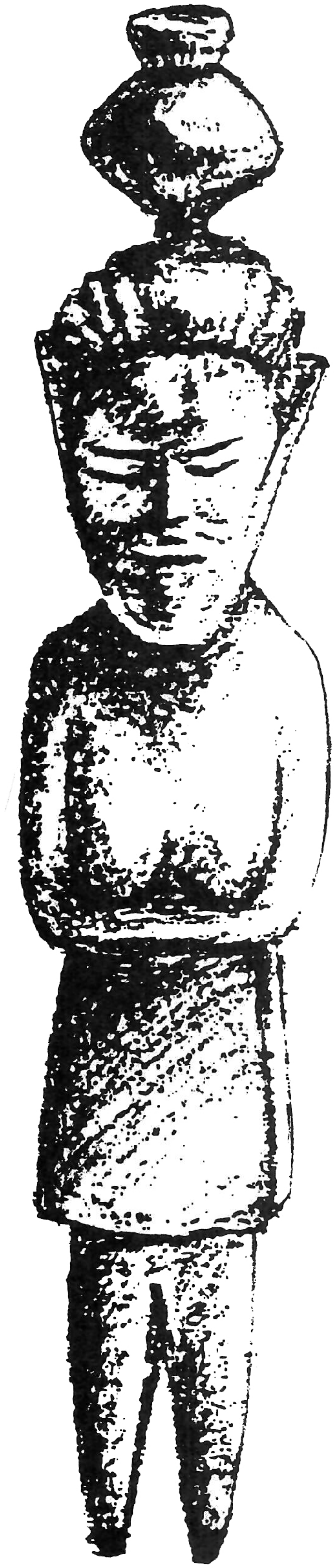
MOTHER TONGUE

JOURNAL OF THE ASSOCIATION FOR THE STUDY OF LANGUAGE IN PREHISTORY

Issue XXI · 2016



CONTENTS

Tributes and Memorials: Heinz-Jürgen Pinnow, Vyacheslav V. Ivanov, Sergej A. Jatsemirskij

Discussion: Languages of the Northern Caucasus

1 From North to North West: How North-West Caucasian Evolved from North Caucasian · *Viacheslav A. Chirikba*

29 Comments on Chirikba's "From North to North West" · *Václav Blažek*

31 Remarks on V. A. Chirikba, "From North to North West" · John *Colarusso*

39 Comments on V.A. Chirikba's paper "From North to North West" · *Wolfgang Schulze*

49 A Response to Suggestions and Comments by the Reviewers of my Article · *Viacheslav A. Chirikba*

53 Prehistoric Language Contact on the Steppes: The Case of Indo-European and Northwest Caucasian · *Allan R. Bomhard*

103 Indo-European-North Caucasian Isoglosses · *Sergei A. Starostin*

147 Notes to "Indo-European-North Caucasian Isoglosses" · *John D. Bengtson*

153 **ASLIP News & Notices**

MOTHER TONGUE **Issue XXI ▪ 2016**

Journal of the Association for the Study of Language in Prehistory

---

OFFICERS OF ASLIP

President:
Michael Witzel
Harvard University
Department of South Asian Studies
1 Bow Street
Cambridge, MA 02138 U.S.A.
witzel@fas.harvard.edu
Tel. 617-495-3295
http://www.people.fas.harvard.edu/~witzel/mwpage.htm

Vice-President & Secretary-Treasurer
John D. Bengston
Savage, MN U.S.A.
http://jdbengt.net
palaeojdb@hotmail.com
Tel. 612-839-3649

Information Officer:
Jonathan Sherman Morris
São Paulo, Brazil
jonathanmorris1964@gmail.com
Tel: 5511-31512667

MOTHER TONGUE **Editor-in-Chief:** John D. Bengtson (see above)
Administrative Editor: Nicholas Davidson

BOARD OF DIRECTORS

Václav Blažek (Masaryk University)
Ronald Christensen (Lincoln, Mass.)
Murray Denofsky (Somerville, Mass.)
John Robert Gardner (Gloucester, Mass.)
Michael Puett (Harvard University)
Stephen L. Zegura (University of Arizona)
Allan R. Bomhard (Charleston, S.C.)
Nicholas Davidson (Center for Avestic Research)
Frederick Gamst (Los Osos, Calif.)
Phillip Lieberman (Brown University)
Jan Vansina (Madison, Wis.)

COUNCIL OF FELLOWS

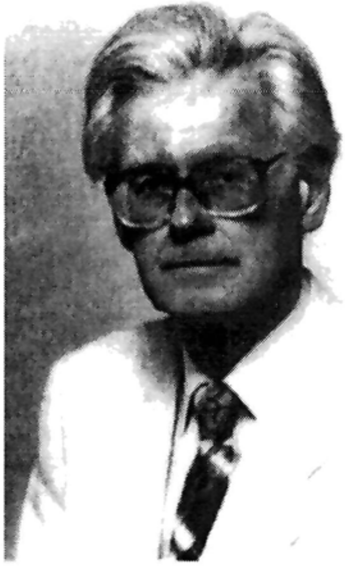
Raimo Anttila (University of California, L.A.)
Luigi Luca Cavalli-Sforza (Stanford University)
Sydney M. Lamb (Rice University)
Merritt Ruhlen (Stanford University)
George Starostin (Russian St. Univ. of Humanities)
Ofer Bar-Yosef (Peabody Museum, Harvard)
Vladimir A. Dybo (Russian Academy of Science)
Colin Renfrew (Cambridge University)
Vitaly Shevoroshkin (University of Michigan)
Chris Stringer (Natural History Museum, London)

Pro Bono Publisher: Greenberg Traurig, LLP
Pro Bono General Counsel: Jeffrey M. Smith

ISSN 1087-0326

ASLIP Homepage: http://aslip.org

Heinz-Jürgen Pinnow (1925–2016)



Jürgen Pinnow

About a quarter-century ago the antecedent of this periodical, for unclear reasons, mistakenly announced the demise of our colleague Heinz-Jürgen Pinnow.[1] Notwithstanding our Mark Twainish blunder, this superb scholar managed to survive until his eventual passing on the first day of July, 2016, on the Frisian isle of Sylt.[2]

Pinnow is known to historical linguists mainly for two major language families in which he worked: (a) Austro-Asiatic (or Austroasiatic, part of Austric), and (b) Na-Dene (part of Dene-Caucasian). As to (a), Pinnow made a vast contribution to Austroasiatic studies in his 1959 book *Versuch einer historischen Lautlehre der Kharia-Sprache [An attempt at a historical phonology of the Kharia language]*. The title beginning with *Versuch* (attempt, or experiment) was typical for Pinnow's humble, unassuming scholarly style. In the opinion of a prominent researcher on Munda:

> Despite its modest title, and its emphasis on Kharia and the Munda languages, [this book is] the most ambitious comparative study of the Austroasiatic languages as a whole, drawing on virtually every Austroasiatic source known in the fifties to establish proto-Munda and proto-Austroasiatic phonology and lexicon. … [In spite of some erroneous and misleading data available at the time], his reconstructions seem in the main to stand up." David Stampe, *Munda Bibliography to 1983*.[3]

As we see in general in regard to Pinnow's trailblazing work, his important contributions tended to be overlooked or belittled by non-German-speaking scholars, whether in Austroasiatic or Na-Dene studies.

When Edward Sapir first proposed the Na-Dene family of languages in 1915, it was thought to consist of three linguistic units: (a) the Haida language, (b) the Tlingit language, and (c) the Athabaskan family (Tanana, Carrier, Sarsi, Mattole, Hupa, Navajo, etc.).[4] At that time the Eyak language was little known, but it eventually became clear that it belonged to Na-Dene and was close to Athabaskan. The following structure of the Na-Dene family eventually became more or less generally accepted: it was thought that Haida was the most divergent of the languages, and thus had split off first from the rest of the family. Then Tlingit split off, then Eyak, leaving the core Athabaskan family.

---

[1] *Mother Tongue* (Newsletter of the Association for the Study of Language in Prehistory), issue 17, August 1992, page 44. Regrettably, in this erroneous notice his name was also misreported as "Hans-Jürgen Pinnow."

[2] We are obliged to Jan Henrik Holst for forwarding to the editor the tribute he wrote for *AmerIndian Research* (see references).

[3] http://www.ling.hawaii.edu/austroasiatic/AA/Munda/BIBLIO/biblio.authors

[4] As Pinnow (2006: 60-61) pointed out, several scholars, such as Wrangell, Radloff, and Boas had inklings of some kind of relationship between Haida and/or Tlingit and/or Athabaskan, but since Sapir "was the first to apply the scientific method, he rightly deserves to be called the discoverer of this language family."

Even from the beginning some experts were unwilling to accept the Na-Dene family. For example, Pliny Earle Goddard could not even accept the relatedness of Tlingit and Athabaskan (let alone Haida), and published an article highlighting the differences between the languages. Later Robert Levine published an article purporting to demolish Sapir's evidence for connecting Haida to the rest of Na-Dene. Many experts, such as Michael Krauss, concurred with Levine, excluding Haida from Na-Dene, while eventually accepting the original unity of Tlingit-Eyak-Athabaskan.

Meanwhile, Pinnow, beginning in the 1960s, continued to amass evidence for a Na-Dene family that still included Haida, correcting and adding to Sapir's evidence. Already in the 1950s Dell Hymes had demonstrated "that the positional categories of the verb in Haida, Tlingit, and Athabaskan correlate in a way that can neither be the result of chance nor be the result of borrowing" (Pinnow 2006: 61). As part of his book *Language in the Americas* Greenberg critically examined Levine's methods and conclusions, maintaining that many of Levine's criticisms were invalid, and even if the criticism were accepted, much of Sapir's evidence remained intact. Greenberg's contentions closely coincided with Pinnow's in his 2006 book. Alexis Manaster Ramer, while disagreeing somewhat with some of Greenberg's arguments, also found fault with Levine's claims. Even more recently John Enrico, an expert in the Haida language, has adduced powerful evidence of the validity of Sapir's original Na-Dene hypothesis. Nevertheless, it seems that most of the current North American Na-Dene/Athabaskan establishment continues to deny the membership of Haida.

Seven years after the regrettable false report of Pinnow's death in ASLIP's newsletter, *Mother Tongue* (journal) attempted to make amends for the mistake by publishing a tribute to Pinnow (Bengtson 1999).

> Pinnow is a Long Ranger. That is, he allows himself to think and hypothesize about distant relationships between the traditionally accepted language families. He thinks there is evidence for remote relationships between Na-Dene and certain other language families. However, his ideas (as expressed in Pinnow 1976 and 1990) do not precisely coincide with the Dene-Caucasian hypothesis ..., but are more similar to those of Morris Swadesh['s] ... vast linguistic network that connects all the languages of the world. ... Pinnow's arguments are backed up by volumes of evidence, where, for example, every recorded word and sentence in the Haida language is painstakingly documented, analyzed, and compared with Tlingit, Eyak, and Athabaskan.

In recent years Pinnow turned to other, "short range," linguistic studies of minority languages: his childhood Low German dialect of Danzig, the Frisian dialects of Germany, and the Kashubian of Poland. Finally, this quote from the recent homage by Jan Henrik Holst deserves repeating:

> Pinnow is an undervalued researcher. This is also related to his modest, restrained nature. He called several of his works merely "experiments" [*Versuch*], although they contain well-founded, extensive reflections and research, and much of science can be subject to falsification anyway. He never wanted to impose his opinions and findings on others; he always looked for lack of recognition in himself and worked even harder to prove his views. (Translation from Holst 2017: 114.)

Selected References

Bengtson, John. 1999. “In honor of Jürgen Pinnow: Comparanda Dene-Caucasica. On the Occasion of his 75th Birthday, 22 January 2000.” *Mother Tongue* 5: 173–176.

Dürr, Michael, E. Renner & Wolfgang Oleschinski. (Ed.) 1995. *Language and Culture in Native North America – Studies in Honor of Heinz-Jürgen Pinnow.* München / Newcastle: LINCOM.

Dürr, Michael & Egon Renner. 1995. “The history of the Na-Dene controversy: a sketch.” In: M. Dürr, et al., 1995, pp. 3–18.

Holst, Jan Henrik. 2017. “Heinz-Jürgen Pinnow (1925 - 2016): Zu Leben und Werk.” *AmerIndian Research* 12/2.44: 110-14.

Pinnow, Heinz-Jürgen. 1953, 1954a. “Zu den altindischen Gewässernamen.” *Beiträge zur Namenforschung* 4: 217–234; 5: 1–19.

__________. 1954b. *Grundzüge einer Phonetik der Kharia-Sprache*. Berlin: unpubl.

__________. 1954c. *Grundzüge einer Phonetik des Mundari*. Berlin: unpubl.

__________. 1958. “Zwei Probleme der historischen Lautlehre der Na-Dene-Sprachen (Stimmton und Aspirationskorrelation – Labiallaute).” *Zeitschrift für Phonetik und Sprachwissenschaft* 11: 128–159.

__________. 1959. *Versuch einer historischen Lautlehre der Kharia-Sprache*. Wiesbaden: Harrassowitz.

__________. 1960. “Über den Ursprung der voneinander abweichenden Strukturen der Munda- und Khmer-Nikobar-Sprachen.” *Indo-Iranian Journal* 4: 81–103.

__________. 1963. “The position of the Munda languages within the Austroasiatic language family.” In *Linguistic comparison in South East Asia and the Pacific*, ed. by H.L. Shorto. 140–152. (Collected papers in Oriental and African studies.) London: School of Oriental and African Studies.

__________. 1964a. *Die nordamerikanischen Indianersprachen. Ein Überblick über ihren Bau und ihre Besonderheiten*. Wiesbaden: Harrassowitz.

__________. 1964b. “On the historical position of Tlingit.” *International Journal of American Linguistics* 30: 155–168.

__________. 1965. Personal pronouns in the Austroasiatic languages: a historical study. Indo-Pacific linguistic studies. Ed. by Milner, G. B., & Henderson, Euge'nie J. A. Amsterdam: North-Holland Publishing Co., 1965. 1.3-42.

__________. 1966a. *Grundzüge einer historischen Lautlehre des Tlingit. Ein Versuch.* Wiesbaden: Harrassowitz.

__________. 1966b. “A Comparative Study of the Verb in the Munda Languages.” In *Studies in Comparative Austroasiatic Linguistics*, ed. by N.H. Zide, 96–193. (Indo-Iranian Monographs, 5.) The Hague: Mouton.

__________. 1967. “Eine Mythe der Juang.” In *Pratidānam: Indian, Iranian and Indo-European studies presented to Franciscus Bernardus Jacobus Kuiper on his sixtieth birthday*, 371–380. The Hague: Mouton.

__________. 1968. “Sprachhistorische Studie zur Verbstammvariation im Tlingit.” *Orbis* 17: 509–531.

__________. 1970. “Notes on the classifiers in the Na-Dene languages.” *International Journal of American Linguistics* 36: 63–67.

__________. 1972. “Schrift und Sprache in den Werken Lako Bodras im Gebiet der Ho von Singbhum (Bihar).” *Anthropos* 67: 822–857.
__________. 1976. *Geschichte der Na-Dene-Forschung*. Berlin: Gebrüder Mann.
__________. 1985a. “Sprachhistorische Untersuchung zur Stellung des Haida.” *Indiana* 10 (Gedenkschrift Gerdt Kutscher, Teil 2): 25–76.
__________. 1985b. *Sprachhistorische Untersuchung einiger Tiernamen im Haida (Fische, Stachelhäuter, Weichtiere, Gliederfüßer, u.a.)*. Nortorf: VA.[5] (Abhandlungen, Heft 39)
__________. 1985c. *Das Haida als Na-Dene-Sprache*. In four parts. Nortorf: VA. (Abhandlungen, Hefte 43–46)
__________. 1986a. *Die Zahlwörter des Haida in sprachvergleichender Sicht.* Nortorf: VA. (Abhandlungen, Heft 47)
__________. 1986b. *Säugetiernamen des Haida und Tlingit: Materialien zu ihrer historischen Erforschung.* Nortorf: VA. (Abhandlungen, Heft 50)
__________. 1988. *Verwandtschafts- und andere Personenbezeichnungen im Tlingit und Haida: Versuch ihrer sprachhistorischen Deutung.* Nortorf: VA. (Abhandlungen, Heft 62)
__________. 1990a. *Die Na-Dene-Sprachen im Lichte der Greenberg-Klassifikation.* Nortorf: VA. (Abhandlungen, Heft 64)
__________. 1990b. *Vogelnamen des Tlingit und Haida. Materialien zu ihrer sprachhistorischen Erforschung sowie Auflistung der Vogelarten von Alaska.* In two parts. Nortorf: VA. (Abhandlungen, Hefte 67–68)
__________. 1995. Curriculum vitae. In Dürr. et al., 1995: 480–482.
__________. 2006. *Die Na-Dene-Sprachen im Lichte der Greenberg-Klassifikation / The Na-Déné Languages in Light of Greenberg's Classification*. Zweite erweiterte Auflege / Second revised edition. Westerland / Sylt.
__________. 2009. *Berichte aus dem Leben eines Sprachwissenschaftlers*. Westerland / Sylt.

---

[5] VA = Völkerkundliche Arbeitsgemeinschaft.

Vyacheslav Vsevolodovich Ivanov (1929–2017)

V.V. Ivanov graduated from Moscow State University as a philologist in 1951. He continued there as a faculty member and earned his first doctoral degree. In 1958 he was dismissed from the University on political grounds (support of writer Boris Pasternak and linguist Roman Jakobson). After that Ivanov worked with the eminent Vladimir Toporov at the Institute of Slavic and Balkan Studies of the Academy of Sciences. He was allowed to return to Moscow State University in 1988.

Later that same year Ivanov, along with about a dozen other Soviet-based scholars, attended the First International Interdisciplinary Symposium on Language and Prehistory, organized by Vitaly Shevoroshkin and Benjamin Stolz of the Department of Slavic Languages and Literatures, University of Michigan (November 8-12, 1988).[1] This conference continued to foster the dialog on language in prehistory between Soviet and western researchers begun by Hal Fleming in 1986. Ivanov gave two presentations, “On Protolanguages” and “Illič-Svityč and the Development of Indo-European and Kartvelian Linguistics.”

Ivanov was highly active in many fields and several institutions, including the Academy of Sciences of the U.S.S.R., the U.S.S.R. Writers’ Union, Stanford University, the State Library for Foreign Literature in Moscow, the Institute for the Theory and History of World Culture at Moscow State University, and the University of California, Los Angeles (from 1991 onward).

Together with the Georgian scholar Tamaz V. Gamkrelidze, Ivanov authored *Indoevropejskij jazyk i indoevropejcy* (1984), later translated by Johanna Nichols as *Indo-European and the Indo-Europeans* (1994-1995). This was possibly his most influential work, which reiterated the glottalic theory of Indo-European consonantism (independently proposed by the American Paul Hopper) and theorized about an Armenian homeland and subsequent migrations of Proto-Indo-European speakers.

Ivanov received abundant accolades, including the Russian Presidential Prize for Contributions to Russian Art and Literature in 2004, full member of the Russian Academy of Sciences, honorary member of the Linguistic Society of America and fellow of the British Academy. He was the author of more than 15 books and 1,000 journal articles and was the editor in chief of *Elementa: the Journal of Slavic Studies and Comparative Cultural Semiotics*. Due to Ivanov’s huge scholarly output we shall not attempt to add a bibliographical catalog here.

V.V. Ivanov died on October 7, 2017, at the age of 88.

---

[1] See *Mother Tongue* XIII (2008). The issue was dedicated to commemorating *Twenty Years of Language in Prehistory • Ann Arbor Symposium • November 1988.*

Sergej Aleksandrovič Jatsemirskij (1980–2017)

It is distressing to report the passing of our young colleague, Sergej Jatsemirskij, a specialist in extinct Mediterranean languages and contributor to this journal. Sergej attended Nižnij Novgorod State University and earned the equivalents to the B.A. and M.A., 1997-2003. His post-graduate studies were pursued at the Russian State University for the Humanities, Moscow, from October 2003 to March 2006, where he completed his Ph.D. degree, specializing in comparative historical, typological and contrastive linguistics, within which his field was the vanished pre-Indo-European languages of southern Europe and Cyprus (Tyrrhenian, Minoan, Sardinian), Greek, Latin and other Italic languages, and the formation and history of the Romance languages. His post-graduate study was guided by the renowned Vladimir Dybo.

His dissertation was titled "Problems of the morphology of the Tyrrhenian languages." His 2011 book, published in Russia, was to a certain extent a continuation of the Ph.D. thesis on the Tyrrhenian languages and also includes a description of the Minoan language of Crete, in accordance with the hypothesis proposed by the author about the genetic relationship of these idioms. Besides the comparative description (phonetics, morphology, word formation) it contains extralinguistic information about the speakers of these languages, the characteristics of written monuments and other sources, a number of actual inscriptions, as well as a description of some methods of deciphering and combinatorial analysis. The monograph is intended to fill the gap that has arisen in the comparative study of all these languages.

Sergej was stricken by pancreatic cancer, and died on May 30, 2017. Sergej's last book, *A Comparative Description of Minoan, Etruscan and the Languages Related to Them*, is scheduled for publication soon.

Selected References

Duly, Peggy, & Sergej Jatsemirskij. 2015. Siculan. *Mother Tongue* 20: 101–112.

Jatsemirskij, S.A. 2014. "Para-Lydian" Inscription from Sardis. *Aramazd | Armenian Journal of Near Eastern Studies* 8.1/2: 207–214.

__________. 2011a. *Opyt sravnitel'nogo opisanija minojskogo, etrusskogo i rodstvennyx im jazykov*. [*Essay in the comparative description of Minoan, Etruscan and related languages*.] Moscow: Jazyki slavjanskix kul'tur.

__________. 2011b. Notes on Minoan Phonetics and Vocabulary. *Mother Tongue* 16: 35–62.

__________. 2009a. Labyrinthos: suffiks *-nth-* v minojskom i tirrenskix jazykax. [Labyrinthos: the suffix *-nth-* in Minoan and Tyrrhenian languages.] In *Orientalia et classica, XXVIII. Aspekty komparativistiki*. Part 4, pp. 98–111. Moscow: Russian State University for Humanities.

__________. 2009b. Etruscan numerals: Problems and results of research. In *Bygone voices reconstructed: On language origins and their relationships. In honor of Aharon Dolgopolsky*. Ed. V.V. Shevoroshkin & H.U. Sverdrup, pp. 129–133. Copenhagen: Underskoven.

__________. 2007. Etrusskie čislitel'nye: problemy i itogi issledovanija. [Etruscan numerals: the problems and results of research.] In *Orientalia et classica, XI. Aspekty komparativistiki*. Part 2, pp. 187–196. Moscow: Russian State University for Humanities.

__________. 2006. Problemy morfologii tirrenskix jazykov. [Aspects of Tyrrhenian morphology.] Dissertation for a degree of Candidate in philological sciences. Russian State University for the Humanities, Moscow.

__________. 2005. Jazyk nadpisi lemnosskoj stely v sravnitel'nom osveščenii. [The language of the Lemnos stele inscription in a comparative study.] In *Orientalia et classica, XI. Aspekty komparativistiki*. Part 1, pp. P. 317–338. Moscow: Russian State University for Humanities.

__________. 2001. Nadpis' lemnosskoj stely. [The Lemnos stele inscription.] In *XII čtenija pam'ati prof. S. I. Arxangel'skogo.* Part 1, pp. 112–121. Nižnij Novgorod: Lobačevskij State University.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

Introduction to Mother Tongue XXI · 2016

This issue features a state-of-the-art discussion of the taxonomic structure and history of the native languages of the Caucasus region. After excluding **Indo-European** languages of the region (mainly Armenian, Ossetic, Kurdic, Persian, Tati, and pockets of Greek; more recently, Russian and Ukrainian); **Turkic** (Azeri, Qumüq, Nogai, Balqar-Karachay, Karapapak, Turkmen); **Mongolic** (Qalmuq); and **Semitic** (Assyrian/Neo-Aramaic, Arabic), we are left with the universally acknowledged autochthonous languages of the Caucasus:[1]

Kartvelian (also known as *South Caucasian*): Georgian, Megrelian, Laz Svan.
West Caucasian (or *Northwest Caucasian*, or *Abkhazo-Adyghean*): Abkhaz, Abaza, Circassian (Adyghe, Kabardian), and the extinct Ubykh.
East Caucasian (or *Northeast Caucasian*, or *Nakh-Daghestanian*): a large group of 30–35 languages, divided into the subfamilies *Nakh* (Chechen, Ingush, etc.); *Avar-Andian* (Avar, Tindi, etc.); *Tsezian* (Tsezi, Hunzib, etc.); *Lezgian* (Lezgi, Tabasaran, etc.); and the isolates *Dargi*, *Lak* and *Khinalug*.

A question of long standing has been whether, or in which ways, these three indigenous Caucasian families are interrelated. The problems are complicated by extreme diversity of the languages in question, and the exceptional phonetic complexity of most of them.

The most liberal or lumping view is known as the *Ibero-Caucasian* hypothesis, which includes all three groups. The history of this model has been thoroughly discussed by Kevin Tuite[2] where it is noted that Giorgi C'ereteli characterized Ibero-Caucasian as "more a matter of faith than of knowledge; and however strong that faith might be, it cannot by mere force change the position on [genetic] relatedness." Today, according to Tuite, "support for the genetic unity of the three groups of indigenous Caucasian languages has all but evaporated among linguists who work on these languages." It seems that Ibero-Caucasian is based more on a regionalistic feeling, stressing the prestige of Georgian, than on purely linguistic evidence. It is true that all the autochthonous Caucasian languages share certain features, but they are mostly typological phonetic and syntactic structures, and loanwords in all directions. Some of these *Sprachbund* features are also shared with non-indigenous languages like Armenian and Ossetic.[3]

---

[1] Thanks to Wolfgang Schulze: *Zur Sprachgeschichte des Kaukasus*. http://www.ats.lmu.de/index.php W.Schulze@lrz.uni-muenchen.de

[2] Tuite, Kevin. 2008. "The Rise and Fall and Revival of the Ibero-Caucasian Hypothesis." *Historiographia Linguistica* 35.1-2: 23–82. (Note that "Ibero-" here has no connection with the Iberia of western Europe, but refers to the ancient Caucasian kingdom of Iberia, where an older form of Georgian was spoken.)

[3] *E.g.*, though the Ossetic dialects, Digor and Iron, are clearly Iranian in origin, NC influence has been so deep that Ossetic has borrowed words as basic as 'hand', 'foot, and 'mouth' from NC (specifically Nakh):

On the other hand, the idea that West Caucasian and East Caucasian *are* related, forming a “North Caucasian” family, has gained traction, in large part due to the pioneering work of Nikolai Trubetzkoy and Georges Dumézil (see Chirikba’s article in this issue). North Caucasian (NC) is particularly well received among the long-range comparativists who support the Nostratic hypothesis, *i.e.*, the “Moscow School” and their associates. Nostraticists in general exclude the NC family from Nostratic, but include Kartvelian. In his current model Allan Bomhard regards Kartvelian as a member of Nostratic, but outside of the core Eurasiatic group.[4] Joseph Greenberg concurred: “Of the three groups—Afro-Asiatic, Dravidian, and Kartvelian—the last appears to be closest to Eurasiatic. However, I consider it not to be a member of Eurasiatic proper, in which I am in agreement with Bomhard and Kerns … .”[5] Also in accord with Bomhard and other Nostraticists, NC is not a member of Greenberg’s Eurasiatic. However, in Bomhard’s view, “Proto-Indo-European proper is the result of the imposition of a Eurasiatic language on a population speaking one or more primordial Northwest Caucasian languages, as first hinted at by Uhlenbeck” (see Bomhard’s article in this issue).

We are privileged to present discussion articles from three of the major experts on West and East Caucasian languages. Viacheslav Chirikba, a native Abkhazian, leads off with his theory that a proto-language closely resembling Proto-East Caucasian was deeply affected by some kind of social upheaval and contact with another language or languages, diverged from its sister dialect and was radically transformed into a structurally different idiom that became Proto-West Caucasian. The West Caucasian specialist John Colarusso and East Caucasian authority Wolfgang Schulze offer their observations on this hypothesis, as does Václav Blažek from a more general comparativist view.

On account of its close relevance to the issues discussed here, we are reprinting Sergei Starostin’s paper on Indo-European-North Caucasian Isoglosses, first published in 1988 in Russian. Starostin’s theory is basically similar to Bomhard’s, and attributes lexical similarities to contacts between PNC and PIE at the beginning of the fifth millennium BCE, and the NC contacts were with a “PNC dialect” which had already diverged somewhat from the original common PNC language. Hence the articles by Chirikba, Bomhard, and Starostin all propose linguistic contacts between some form of NC and another language.

Digor *k’ox* ‘hand’, *k’ax* ‘foot’, *dzux* ‘mouth’; cf. Chechen *küg* ‘hand’, *kog* ‘foot’, *zʕok* ‘beak’. Note that Ossetic has also borrowed glottalized consonants, but not necessarily corresponding in distribution to the respective NC loanwords (at least in the cases cited here). The Ossetians have inhabited a plateau in the center of the Caucasus, surrounded by NC and Kartvelian speakers, for about seven centuries (Fridrik Thordarson. 1973. “Ossetic and Caucasian: Stray Notes.” *Norsk Tidsskrift for Sprogvidenskap* 27: 85–92.)

[4] *A Comprehensive Introduction to Nostratic Comparative Linguistics: With Special Reference to Indo-European*. 3rd edition, Prepublication Draft, December 2017. Florence, South Carolina.

[5] Greenberg, Joseph H. 2000. *Indo-European and Its Closest Relatives: The Eurasiatic Language Family. Volume 1, Grammar*. Stanford: Stanford University Press.

John Bengtson has added some notes about Basque words that are deemed cognate with the NC words discussed, according to the putative Euskaro-Caucasian hypothesis.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

From North to North West: How North-West Caucasian Evolved from North Caucasian

Viacheslav A. Chirikba
Abkhaz State University, Sukhum, Republic of Abkhazia

The comparison of (North-)West Caucasian with (North-)East Caucasian languages suggests that early Proto-West Caucasian underwent a fundamental reshaping of its phonological, morphological and syntactic structures, as a result of which it became analytical, with elementary inflection and main grammatical roles being expressed by lexical means, word order and probably also by tones. The subsequent development of compounding and incorporation resulted in a prefixing polypersonal polysynthetic agglutinative language type typical for modern West Caucasian languages. The main evolutionary line from a North Caucasian dialect close to East Caucasian to modern West Caucasian languages was thus from agglutinative to the analytical language-type, due to a near complete loss of inflection, and then to the agglutinative polysynthetic type. Although these changes blurred the genetic relationship between West Caucasian and East Caucasian languages, however, this can be proven by applying standard procedures of comparative-historical linguistics.

1. The West Caucasian languages.[1]

The West Caucasian (WC), or Abkhazo-Adyghean languages constitute a branch of the North Caucasian (NC) linguistic family, which consists of five languages: Abkhaz and Abaza (the Abkhaz sub-group), Adyghe and Kabardian (the Circassian sub-group), and Ubykh. The traditional habitat of these languages is the Western Caucasus, where they are still spoken, with the exception of the extinct Ubykh.

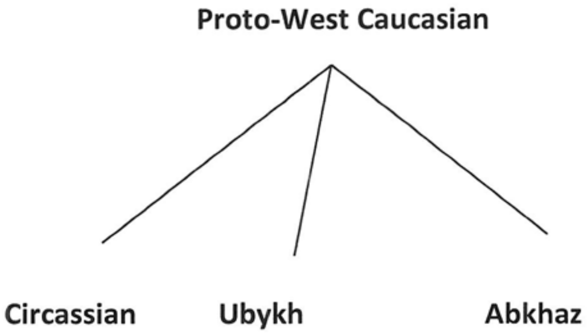
Typologically, the WC languages represent a rather idiosyncratic linguistic type not occurring elsewhere in Eurasia. In phonology, they are notorious for huge consonantal inventories, reaching a maximum of eighty phonemes in Ubykh, and for minimal vocalic contrasts: three vowels in Circassian and Ubykh and only two in Abkhaz/Abaza. In grammar, these languages are characterized, on the one hand, by highly developed verbal systems: prolific verbal prefixation, polypersonalism (the coding of up to four, as in Abkhaz, and even five, as in Circassian, arguments on the verbal form). On the other hand, they have only elementary nominal inflection: Circassian has four cases, Ubykh has two, and Abkhaz/Abaza none at all. Abkhaz stands apart even among its sister-languages in expressing ergative alignment solely by the relative order of

---

[1] I thank Dr. B.G. Hewitt and two anonymous reviewers for valuable comments.

agreement markers and in having a category of nominal classes and gender, absent in Circassian and Ubykh.

(1)



However, despite marked differences such as those mentioned here, in general all five WC languages exhibit uniformity in their overall phonological and grammatical makeup, which can be attributed to the result of shared inheritance, parallel development and millennia-long contact.

The other North Caucasian branch is Nakh-Daghestanian or East Caucasian (EC), which consists of ca. 30 languages, distributed into six groups: Nax, Lezgi, Avaro-Ando-Tsez, Lak, Dargi and Khinalygh.

In many respects, WC and EC represent very similar systems. The main parameters of their phonological structures coincide. These include the four-way distinction in laryngeal features: voiced *vs.* voiceless aspirated (or lax) *vs.* voiceless unaspirated (or strong/tense) *vs.* glottalized. The property of both systems are lateral obstruents, which are universally rare and, with some exceptions, unique in Eurasia. Another shared feature is richness of post-velar articulations and of sibilant systems (affricates and fricatives). Morphophonologically, both families are marked for the use of Ablaut. Another idiosyncratic trait uniting EC and WC families is the presence of the system of nominal classes. Morphosyntactically they are representatives of ergative alignment. By themselves, all these traits represent rather specific phenomena on the background of the languages of Eurasia.

However, in other fundamental aspects WC and EC are strikingly different: unlike polysynthetic WC languages, the languages of the EC branch are moderately synthetic with elements of analyticism. Besides, in sharp contrast to mainly prefixing WC, which have an elementary nominal inflection, EC languages are characterized by a prevailing suffixation and a developed nominal inflection.

What I purport to discuss in this paper is how WC could arrive in some important aspects to a strikingly different system from the one represented by EC, which latter, as some specialists maintain, continue the main parameters of the NC proto-language.[2]

2. A short history of WC and NC comparative research.

The genetic relationship between the WC languages was first noticed in the second half of the 18th century by the German scientist Johann Anton Güldenstädt (cf. his work published posthumously in 1834), according to whom Abkhaz and Circassian had common origin.[3] This opinion was repeated by the British author George Ellis (1788: 18), who wrote: "The Abkhas speak an original language, essentially different from all the known languages, though appearing to have a very remote affinity with that of the Circassians".

Güldenstädt's famous compatriot Peter Simon Pallas (1803), though initially having remarked about "some affinity" between Circassian and Abkhaz (Abasa) (p. 329), went on further in his book claiming that Abkhaz, despite some Circassian loanwords, had not the slightest resemblance to any European or Asiatic language.[4] The same erroneous claim is made for Circassian.[5] Pallas' misleading conclusion was echoed half a century later by the early Russian Caucasologist and the author of a Circassian-Russian dictionary, Leontij Liulie (1857): "The Circassians, i.e. Adyghes and Kabardians, speak the Adyghe language; while the Abkhazians – the Abkhaz language and both languages have not the slightest affinity between them."

Another celebrated German, Julius von Klaproth, in his *Travels in the Caucasus and Georgia*, published in 1814, literally follows Pallas' words on the lack of relationship between Circassian and Abkhaz.[6] However, in his later work *Asia Polyglotta* (1823), on examining the data, he changed his view and united both Circassian and Abkhaz into one genetic taxon, "West Caucasian" (p. 129); cf. also Klaproth (1827: 55, 82). The insightful judgments of Güldenstädt and Klaproth based on the examination of word-lists of the respective languages were supported by the German orientalist Georg Rosen (1846), who also noted the closeness of Abkhaz to Circassian. Finally, in the second half of the 19th century the great Russian Caucasologist Baron Peter von Uslar (1887: 82, 85), the author of the first Abkhaz grammar and the first grammatical sketch of Ubykh, definitively asserted the genetic kinship existing between Circassian, Abkhaz and Ubykh.[7]

---

[2] "While comparing the reconstructed PEC and PWC systems it became clear that the second system can be almost completely deduced from the first [one]. Thus the finally obtained Proto-North-Caucasian phonological system virtually coincides with the PEC…" (NCED 39-40).

[3] "Die Abchasetische oder Abasaische und Tscherkessische Sprache haben eine Mutter sind aber so verschiedene Mundarten derselben, dass man die Verwandschaft nicht überall findet, sondern theils mühsam suchen muss. Meine Sprachproben zeigen dieses" (Güldenstädt 1834: 131-132).

[4] "Ihre ganz fremde Sprache hat, wie aus dem *Wörterbuche aller Sprachen* zu ersehen ist (wenige Tscherkessische Wörter ausgenommen), mit keiner bekannten Europäischen und Asiatischen Sprache die geringste Aehnlichkeit" (Pallas 1803: 335).

[5] "Ja vielleicht ist die Tscherkessische, mit keiner andern verwandte Sprache ursprünglich eine Art von Rothwälsch gewesen" (p. 352).

[6] "Their peculiar language has, with the exception of a few Tscherkessian words, no resemblances to any European or Asiatic tongue" (Klaproth 1814: 247).

In 1932, young Frenchman George Dumézil published a study of comparative morphology of the WC languages. Though this work became a valuable contribution to WC research, Dumézil's morphological comparisons were not supported by, or based on, a system of regular sound correspondences. Dumézil himself was aware of the methodological shortcomings of such an approach, which is clear from the foreword to his book (p. 8).

It was, again, Julius von Klaproth, who in his *Asia Polyglotta* (1823: 124) first suggested the connection between the WC and EC languages and the existence of the North Caucasian family (which he called "Caucasian") as an independent genetic taxon. Klaproth also proposed the internal classification of the "Caucasian" family into West Caucasian, East Caucasian, and Central Caucasian ("Mittel-Kaukasier"), i.e. Nakh, regarding the (North) Caucasian family as indigenous to the Caucasus and separating it from Kartvelian languages, which he saw as a genetically isolated taxon. He wrote: "Although the languages of the [North] Caucasian tribes significantly deviate from each other, and at first sight seem to be absolutely different, yet by a closer examination one does find undoubted family affinities and common points" (op.cit., 133).

A hundred years later after the publication of Klaproth's monumental work, the great Russian philologist Nikolay Trubetzkoy was the first to put the comparison of the NC languages on a solid scientific base. In his 1922 article, he insisted that "In order to prove a genetic relationship, it is necessary first of all to establish phonetic correspondences, to demonstrate their regularity, to single out the exceptions, and to scrupulously compare the grammatical forms" (p. 185). On the comparison of morphological elements only, Trubetzkoy (ibid.) remarked: "Linguists are convinced of the relationship of Greek, Sanskrit and Latin not due to more or less similar usage of the genitive or accusative cases, but due to the existence of consonantal correspondences between one or another phoneme of Greek and one or another phoneme of Sanskrit and Latin".

Having laid down rigorous methodological prerequisites for the comparative-historical study of the Caucasian languages, Trubetzkoy successfully demonstrated that methods, used to prove the relationship between the IE languages, many of which boasted ancient literary traditions, are fully applicable to unwritten languages of the Northern Caucasus through the examination of phonemic correspondences between the modern dialects. Especially compelling were regular sound correspondences established by Trubetzkoy (1922: 188-9) in the series of obstruent laterals:[8]

---

[7] "… я извлек для себя точное убеждение в родстве адыгского языка с убыхским и абхазским" (p. 85).

(2)	Circ	Ub	Abx		Circ	Ub	Abx	
	L	*L*	*žʲ*	:	*bLə*	*bLə*	*bžʲ*	seven
					Lə		*žʲə*	meat, flesh
	λ	*λ*	*šʲ*	:	*pλə*		*pšʲə*	red
					λə		*šʲa*	blood
	λ'	*ƛ'*	*šʲ*	:	*pλ'ə*	*pƛ'ə*	*pšʲ*	four
					λ'ə		*šʲ*	to kill (Circ, Abx); to die (Circ)

In these examples, Abx back sibilant fricatives are innovations in comparison to more archaic Circ and Ub lateral consonants. Similar correspondences in laterals were established by Trubetzkoy (op.cit., p. 189-197) within the EC group, and finally between the EC and WC branches. Though not all of his correspondences and reconstructions now seem to be correct (see Starostin's comments in Trubetzkoy 1987: 438-447), others are still valid, cf. the correspondences between EC strong and strong glottalized lateral affricates *ƛ:*, *ƛ':* and WC voiced lateral fricative *L*:

(3)	'seven'	Avar *anƛ:-*, Archi *wiƛa-*	:	Circ *bLə*, Ub *bLə*, Abx *bžʲ*
	'meat'	Andi *riƛ:i*, Archi *aƛ':*	:	Circ *Lə*, Abx *žʲə*
	'ice'	Archi *muƛ':a-ƛ'*	:	Circ *məLə*

From these correspondences, Trubetzkoy drew important conclusions that the presence of lateral consonants in Avaro-Andi and in WC languages cannot be fortuitous, and that lateral consonants already existed in the NC proto-language (op.cit., p. 200). He emphasized that the great typological difference between EC and WC means that their genetic relationship is not self-evident and should be specially proven.

Results of Trubetzkoy's work convinced a number of Caucasian linguists in the existence of an independent North Caucasian family. G. Deeters (1931: 290) wrote that the relationship between the NWC and NEC languages was proven by Trubetzkoy, and that the South Caucasian (Kartvelian) languages do not seem to be related to this family. In another paper, Deeters (1955: 26) asserts, referring to the works by Trubetzkoy, that there are undoubted lexical similarities between the NWC and NEC groups. K.-H. Schmidt (1972: 25) wrote that the genetic relationship between the NEC and NWC languages, after the famous 1930 article by Trubetzkoy "Nordkaukasische

---

[8] Transcription used in this paper: *ƛ* – voiceless obstruent lateral affricate, *ƛ:* – strong voiceless lateral affricate, *ƛ':* – strong voiceless glottalized lateral affricate, *L* – voiced obstruent lateral fricative, *λ* – voiceless obstruent lateral fricative, *λ'* – voiceless glottalized lateral fricative; the sign *:* renders vocalic or consonantal length/strength, ᵛ - voice, ' - glottalization, ʲ - palatalization, ʷ - labialization.

Wortgleichungen," must be regarded as proven. A similar idea was expressed somewhat more cautiously by the Dutch Caucasologist A.H. Kuipers (1963: 315): "The existence of a genetic relationship between N[orth-]W[est] and N[orth-]E[east] Cauc.[asian] is probable; the relations of S[outh] Cauc.[asian] to this N[orthern] group so far remain unclear … This appraisal of the possible genetic relationships between the three groups is based on the number of reasonable etymologies that have been proposed, cf. especially N.S. Trubetzkoy, "Nordkaukasische Wortgleichungen."

Nearly at the same time as Trubetzkoy, George Dumézil in the cited above 1932 book rather eloquently expressed his opinion on the North Caucasian relationship: "Que les langues caucasiennes du Nord-Ouest soient apparentées à celles du Centre et du Nord-Est (tchétchène et langues du Daghestan), ce n'est pas une hypothèse, c'est un fait" (p. 8). In view of Dumézil's disciple and a prominent Caucasologist himself, George Charachidzé (1967: 30), the genetic relationship between the two northern families, NWC and NEC, seems to be quite certain.

The author of the present article too deems the relationship between the WC and EC families as basically proven, thanks to works by N. Trubetzkoy, G. Dumézil, A. Shagirov, B. Balkarov, and especially A. Abdokov, S. Starostin and S. Nikolayev. The overall weight of revealed lexical material common to both NC branches, and, importantly, systemic phonemic correspondences established on the basis of lexical comparisons, despite the fact that many details in the reconstruction of individual NC groups and the parental NC proto-language still have to be worked out, render the validity of the North Caucasian linguistic family beyond any reasonable doubt.[9]

The notion of genetic relationship between WC and EC is supported by quite a number of prominent Caucasian scholars, such as G. Dumézil, G. Charachidzé, M. Kumakhov, A. Shagirov, S. Kodzasov, M. Alekseev, Y. Testelets, etc. The critics of this theory so far have failed to produce any compelling argumentation, which would explain numerous lexical correspondences in basic vocabulary as observed between WC and EC families by anything other than genetic inheritance. Typically, the critique comes from authors who are not themselves historical linguists, or who work exclusively on one branch of the NC family, being unfamiliar with the other, or even from those who work on the unrelated Kartvelian family.

In modern times, the major contribution to the NC comparative studies have been made by the Kabardian scholar Auez Abdokov (1981; 1983) and two Moscow linguists Sergei Nikolayev and Sergei Starostin (NCED). The results of their work became two NC comparative dictionaries. These works, especially the great *A North Caucasian Etymological Dictionary* by Nikolayev and Starostin (NCED), became real milestones in the field of NC comparative studies. Both dictionaries contain a large number of lexical correspondences, which prove the existence of the ancient relationship between these two branches. NCED presents an elaborate system of correspondences between WC and EC phonemes established on the basis of systemic comparison of relevant lexical items of both branches. However, even with this undoubted progress, there remains much to be done in working out many details and solving many remaining problems in the reconstruction of individual NC branches and of their ancestral language.

---

[9] Cf. Chirikba (2008: 33-36) on various theories concerning the issue of genetic relationship between the indigenous Caucasian languages.

John Colarusso (1989: 26-27) describes some of the processes within WC, which blurred the original picture of its relation to EC: "Most of the cognates in this family are hidden because the languages have levelled off an old grammatical class system in varying ways. The surviving grammatical class prefixes are primarily reflected as secondary rounding or palatalization on the consonant. This assumption produces a PNWC that closely resembles a Northeast Caucasian language".

3. The Reconstruction of PWC.

At present, there exist several versions of a PWC reconstruction: the one proposed by S. Starostin (1978; NCED), the systems proposed by B. Balkarov (1979), A. Abdokov (1983), J. Colarusso (1989: 28) and by the author of the present paper (Chirikba 1996).

S. Starostin's short paper (1978) contains the chart of reconstructed phonemes with correspondences in individual languages, but offered no discussion or examples; all these appeared 16 years later in his and S. Nikolayev's *North Caucasian Etymological Dictionary* (NCED 1994; reprint 2007). A much more elaborated presentation of his PWC reconstruction is given in Starostin's review (2007) of my 1996 book.

The version of PWC reconstruction proposed by B. Balkarov (1979: 80) differs considerably from Starostin's system and contains a more modest inventory of 33 consonant phonemes and 2 vowels (*a*, *ə*). The author posits a four-fold set of bilabial and velar stops (voiced, aspirated, non-aspirated and glottalized), and labialization as a distinctive feature. The absence in his PWC scheme of dental stops and simple sibilants makes an impression of omissions due to typographic reasons, though this is just a conjecture. A. Abdokov (1983), though he is using the reconstructed PWC forms in his PNC dictionary, does not present a chart of reconstructed PWC phonemes. J. Colarusso (1989: 28) in the article devoted to the discussion of various aspects of the PWC reconstruction proposes a tentative chart of PWC phoneme system, which contains sets of voiced, aspirated, non-aspirated and glottalized consonants, as well as palatal(ized) affricates and fricatives. He does not reconstruct labialization as a distinctive feature, and presents a system of four (plus two, in parentheses) vowels.

My ideas of PWC reconstruction (Chirikba 1996) are closer to those put forward by S. Starostin. Though our reconstructed models differ in many details, they are based on the following common principles, a part of which coincide with the reconstructed systems proposed by previous authors. The PWC consonant system comprised three classes of phonemes: obstruents, resonants and glides. The obstruent system was based on a four-way contrast in the laryngeal features (voiced ~ voiceless ~ tense/strong ~

glottalized/ejective), and on a four-way timbre contrast (simple ~ palatalized ~ labialized ~ palatalized-labialized). Besides, I agree with Starostin on the need of the reconstruction of pharyngealization as a distinctive feature.

It is probably worth commenting on some of the reconstructed consonant types. In contrast to the paradigmatic richness of the class of obstruents, PWC resonants, glides and vowels were characterized by simplicity.

Though both palatalization and labialization occur in the world's languages, what is extremely rare is the phonemically distinctive combination of these features.[10] The necessity to reconstruct a set of labialized-palatalized obstruents, proposed by Starostin (cf. NCED 185, 189, etc.), is dictated by the need to account for two different sets of WC correspondences, as shown on the chart below in (6). Labialized-palatalized consonants are reconstructed for all PWC obstruent series, with the exception of the labial one (though, unlike my reconstruction, in NCED 184 the labialized-palatalized labials are also postulated). Being phonetically unstable, they were not preserved in any of the descendant languages, leaving different reflexes. The source of this correspondence – various reflexes of early PWC combinations *C+ö* and *C+ü*, which were reflected in PCirc and PAbx as C^w, and in PUb as C^j.

4. The origin of the PWC phonemic system.

The phonological model of late PWC in essence did not differ substantially from that of its modern descendants. It was a "consonantal" language, with a huge qualitative and quantitative diversity of consonants and a bivocalic, "linear" vocalic system, distinguished by the degree of openness. The striking disproportion between the class of obstruent consonants and the class of vowels is explained by the fact that the timbre features, which in the majority of languages are normally in the property of vowels, in PWC were transposed to the consonants (cf. Starostin 1978: 96; NCED 43, 73, 192; Abdokov 1983: 25-29; Colarusso 1989: 26). The origin of the hypertrophic WC consonant system can thus be explained as a result of a re-analysis of the PWC CV-sequences according to the following formula (the sign ^{v} denotes the vocalic timbre):

(4) $/C+V^v/ \Rightarrow [C+V^v\,] \sim [C^v+V] \Rightarrow /C^v+V/$

The four-fold timbre contrast in consonants ($C : C^j : C^w : C^{wj}$) can be regarded as a reflection of the original vocalic oppositions. Furthermore, the character of the vowel following the consonant (i.e. either *a* or *ə*) can serve as an indication of the quality of the original vowel.

---

[10] However, they are possible on the phonetic level: labialized fricatives in Abkhaz, or dentolabialized consonants in isolects of Lezgi are phonetically palatalized. The rarity of a phonemically significant combination of palatalization and labialization can be explained by the insufficient articulatory and acoustical contrast between the simple labialized and labialized-palatalized phonetic types (cf. Chirikba 1991: 96, 102).

(5)

early PWC >	late PWC	early PWC >	late PWC
**Ca*	**Ca*	**Ci*	**Cʲə*
**Cə*	**Cə*	**Co*	**Cʷa*
**Ce*	**Cʲa*	**Cu*	**Cʷə*

However, in two cases, the reflexes in Ub are different from Circ and Abx, which suggests the reconstruction of two additional vowels:

(6)

early PWC >	PWC >	PCirc	PUb	PAbx
**Cö*	**Cʷʲa*	**Cʷa*	**Cʲa*	**Cʷa*
**Cü*	**Cʷʲə*	**Cʷə*	**Cʲə*	**Cʷə*

Examples: Circ *gʷə*, Ub *gʲə*, Abx *gʷə* ‘heart’; Circ *k’ʷa/ə* ‘to go (a distance)’, Ub *k’ʲa* ‘to go’, probably also Abx *k’ʷa-ša* ‘to dance’, etc.; Abx *mjʷa* (< PAbx **məʕʷa*), Ub *məɣʲa* ‘road, way’, Circ *ɣʷa/ə* (without the initial bilabial) in *ɣʷa-gʷə* ‘road, way’ (*gʷə*‘surface’), *λa-ɣʷa* ‘path’.

On the basis of these correspondences, the following Pre-PWC vocalic system can be reconstructed: two timbre neutral, four rounded, two front rounded and two front unrounded vowels:

(7)

**i*	**ü*		**u*
**e*	**ö*	**ə*	**o*
		**a*	

4.1. It seems that the source of labialization could be not only vowels placed after the consonant, but also vowels preposed to it, as suggested by East Caucasian cognates, cf. the following examples:

(a) PNC **C+u* > PWC **Cʷ* :
Avar *nisu*, dial. *nišu*, Andi *iso*, Tsez *izu*, Gin *ižu*, Xvar *ĩzu*, Gunz *ə̃zu*, Dargi *nusi*, Lezgi *nasu*, Bud *nusu*, cf. PWC > PAbx **ašʷə* ‘cheese’;
Chech, Ing, Bats *šu*, Lak *zu*, Aghul *ču-n*, Tsax *šu*, Archi *žʷe-n*, Xin *zu-r*, cf. PWC **sʷa* ‘you (pl.)’.

(b) PNC **u+C* > PWC **Cʷ* :

> Axv *ũs:i*, Cham *ũs:*, Tindi, Kar, Botl, Godob *unš:i*, Bagv *unš:*, cf. PWC > PAbx **nəšʷə* ‘soil, clay’; the intermediate stage must have been early PWC **nušə*, with a metathesis (*unš-* > **nuš-*), if one regards the EC forms as original;
> Avar *oc*, Gin *üš*, Bezh, Gunz *õs*, Dargi *unc*, Udi *us*, cf. PWC **c:ʷə* ‘ox, bull’.

Sometimes a metathesis of the labialization element can be supposed in individual dialects, resulting in a cluster with initial bilabial, cf. PLezgi **c’ʷ:er* ‘name’[11] (Tab *č’:ʷur*, Archi *c’or*) *vs.* Ub *p’c’a* ‘name’, cf. CCirc **c’a*; PDargi **ʔurx:ʷi* ‘sea’ vs. Ub *šʷa*, but PAbx **mašəna* ‘sea’, probably, from an earlier **mšəna* < *šʷəna* < **λʷə-na*, cf. CCirc **xə* (PWC **λʷə*); in both cases CCirc lost all traces of labialization altogether.

In some cases of labialization in WC, the EC correlates do not give any indication as to its source, and in this case it is PWC that can be used for introducing this feature in the NC proto-form, cf. Chech, Ing *malχ* ‘sun’, Andi, Axv, Tindi, Godob *miλi* ‘sun’, Cham *miλ* ‘sun, day’ *vs.* PWC **ma/əλʷʲa* > Abx *a-mš*, Ub *məsʷa*, Kab *maxʷe* ‘day’; Avar *piq:* ‘fruit’, Godob *perq:i*, Kar *biq:e* ‘apricot’, Lak *piq* ‘bad fruit’ *vs.* PWC **pq:ʷə* > Ad *pq:ʷə//pχə*, Abx *a-pħʷa* ‘prune’, Ub *pqə* ‘a kind of prune with big fruit’.[12]

4.2. Concerning the opposition “lax ~ tense”, the authors of NCED (p. 43) propose to see its source in the early distinction between long and short vowels: before long PNC vowels PWC stops and affricates turned into tense consonants. I will accept here this explanation as a working hypothesis.

4.3. We arrive thus at a rather simplified early PWC obstruent inventory, consisting of voiced (C^{v}), voiceless aspirated ($C^{[h]}$), and glottalized (*C’*) correlates.

(8) *A tentative inventory of early PWC consonant system*

b	pʰ	p’						m	w
d	tʰ	t’	ʒ	c	c’	z	s	n	
			ǯ	č	č’	ž	š	r	
			Ł	λ	λ’	L	λ	l	
g	kʰ	k’				ĝ	x		j

---

[11] The PNC and PEC reconstructions are from NCED. Though not all reconstructed forms in NCED can be accepted without reservations, here I am more concerned with showing the general lines of the evolution of PWC, rather than with dwelling into the discussion of details of the reconstructed system.

[12] It is interesting to note a structural and material parallelism of Abx *a-pħʷa-sa* ‘damson’, lit. ‘prune-small’ with Avar *ʕis:in-piq:* ‘damson’, although with a different order of constituents (Avar *ʕis:in* ‘little, small’, *piq:* ‘fruit’). It is also interesting to note a parallelism in the fluctuation on voicedness in the initial bilabial: Abx *a-pħʷa* ~ *a-bħʷa* ‘prune’, cf. North Avar *piq:* ~ South Avar *biχ*, Kar *biq:e* ‘fruit(s).

G	q^h	q'	γ	χ
		ʔ	ʕ	H

5. Theories concerning the WC root structure.

The seemingly predominantly monosyllabic WC root structure, which sets it apart from other indigenous languages of the Caucasus, has always intrigued linguists (cf. already de Charencey 1862; Bálint 1904: xi, xv, xix) and caused some of them to look at isolating languages for typological parallels.

5.1. Hyacinthe de Charencey.

In 1862, at the dawn of comparative and typological studies, the French philologist Hyacinthe de Charencey wrote about the same "primitive" monosyllabicity of Circassian and its sister-languages, on the one hand, and of Sino-Tibetan languages, on the other.[13] De Charencey, who tried to demonstrate not only the structural but also a genetic closeness of the indigenous Caucasian languages to Sino-Tibetan, was obviously an early precursor of modern proponents of the Sino-Caucasian hypothesis, even though the attachment of Kartvelian and Vietnamese to, respectively, North Caucasian and Sino-Tibetan families is discarded by modern research. Like late Marr and Yakovlev (see below), de Charencey regarded the monosyllabicity of WC and Sino-Tibetan root to be original and archaic and thought that the other Caucasian languages transformed their "primitive monosyllabic structure" into the "agglomerating" (i.e. agglutinative) one under the influence of IE and Turanian languages. He even tried to place the original homeland of the peoples belonging to the "monosyllabic family" in areas between Armenia and to the south of Bactria, i.e. Central Asia, and thought that later they were split in two by the Indo-Europeans invading from the north, who pushed one part of them to the gorges of the Caucasus and the other to the Himalayas, whence they then spread to China (p. 12-13).

5.2. Nikolay Marr.

---

[13] "Entre toutes les langues caucasiennes, le tscherkesse et les idiômes de peuplades voisines semble se rapprocher du manière plus spéciale du tibétain et de dialectes indigènes du Népal. Dans ces deux groupes d'idiômes, nous rencontrons, en effet, la même structure primitivement monosyllabique, la même formation, à une époque postérieure, de quelques dissyllabes, par addition particule déterminatives placées d'ordinaire à la fin du mot." (p. 9-10).

The influential Russian/early Soviet philologist Nikolay Marr, the founder of the notorious "Japhetic" theory,[14] in different works vacillated, in his typical manner, between regarding Abx as a product of an "extreme" evolution and, in later work, calling it an extraordinary archaic language. Thus, in his 1912 paper (reprinted in Marr 1938: 1-33) he was objecting to the opinions expressed by Uslar (1887: 37), who regarded Abx as representing the primaeval ("infantile") state of a language on the basis of richness of its verbal forms, arguing that "even if Abx developed sophisticated verbal forms, it nevertheless possesses a degraded morphology; the loss of morphological expressiveness it compensates by syntactic means, and … in general Abx demonstrates an extreme level of development" (Marr 1938: 2). The comparison of Abx monosyllabic roots with Kart polysyllabic roots suggested to him that Abx roots were historically worn, having lost final consonants and that monosyllabicity was thus of more recent origin (ibid: 4, 27). He saw the evolution of Abx in the weakening of final syllables, which led to the loss of the original case endings, and in the increased role of prefixation, specifically noting the proclitization of originally enclitical pronominal particles (ibid: 5-6).

In his later work Marr, however, radically departed from these views and started to regard Abx as frozen "on an exceptionally archaic stage of development".[15] Marr's early conclusions, though based on the comparison of Abx with unrelated Kart languages, were nevertheless productive, presenting the WC monosyllabicity not as a static and frozen remnant of the distant glottogonic past, but rather as a result of a relatively later evolution from more complex structures.

5.3. Nikolay Yakovlev.

The other great Russian Caucasologist, Nikolay Yakovlev, echoing late Marr's glottogonic ideas, spoke of the "amorphous" stage as the most archaic speech-form through which all human languages passed. He suggested that unlike other languages, the WC languages retained vivid vestiges of that ancient stage; the term "amorphous" was then used for the language type we now call "isolating", and indeed, Yakovlev's description of the "amorphous" structure (as in Yakovlev & Ašxamaf 1941: 7) by many parameters conforms to an isolating language-type.

---

[14] Marr claimed that human language went through successive structural-grammatical stages – from amorphous to agglutinative and finally to fusional, whereby each stage directly corresponded to concrete social-economical and political systems (from earliest communes to a class society).

[15] "[Мы застаем] абхазский на исключительно древней стадии развития" (Марр 1938: 381). On the eastern extreme of Asia, Marr (1936: 6) cited Chinese as being of "absolute typological antiquity" ("Китайский язык, его абсолютная типологическая древность и относительные эволюционные новшества"). Marr (1933: 243) wrote: "From this formal point of view Chinese stopped at that stage of development, when in the language of humanity there were no service [i.e. grammatical] forms, the relations between words were determined not by endings, as in Russian, but by word order. Such a phenomenon we find in the West, in the Mediterranean world, in a certain measure only on the eastern Black Sea coast in Abkhazia and in the eastern part of the Mediterranean itself, in Egypt."

In his grammar of Adyghe, written together with Ašxamaf, Yakovlev describes the earliest stage of the "amorphous" structure of Adyghe and the way it evolved into the polysynthetic one (pp. 209, 237-8, 380-1, 406, 408). In his view, in the ancient period the language did not distinguish vowels (monovocalism). The root had a CV-structure and was equal to a phoneme, a syllable, a morpheme, and a word: it was a unitary complex, a "syllabo-phoneme", comprised of a variable consonantal initial and an invariable (mono)vocalic finale. The words did not belong to concrete grammatical classes and lacked any inflection; their connections within the sentence were expressed by their relative order, intonation or accent. From monovocalic monosyllabic words then evolved monosyllabic words with the distinction of two vowels. Due to the growing need to create new words, compounding began to develop, hence the development of incorporation, which was followed by the development of agglutination and, finally, of polysynthetism.

Yakovlev points out the following vestiges of the "amorphous" stage in modern Adyghe (pp. 11, 208, 211, 241, 252-3, 255, 284-5, 381-2, 404, 414): the predominance of monosyllabic roots with consonant onset and vocalic finale (CV) as the primary root-type; a syllable is often equal to a morpheme ("seme"); many modern affixes can be traced back to independent roots/words; each word can become a verb or a substantive, as the reflection of the period when no formal grammatical classes of words existed, etc.

Even after the official condemnation of Marr's Japhetic theory, in his later grammar of Abkhaz finished in 1951 (and published only in 2006), Yakovlev (p. 144-145) still speaks of vestiges of the amorphous stage in the evolution of Abx: "... the majority of current polysyllabic Abx words can be analysed into their component parts – the primary words/roots. From this, we can suppose that in some more or less distant epoch the language, from which Abx evolved, consisted of monosyllabic words/syllables. These words/syllables did not posses then any formal particles, either prefixes or suffixes. They remained unchanged in the sentence. All connections between words and their forms were expressed only syntactically, i.e. by the placing of words in the sentence, intonation, accent, gestures, real speech situation, etc. Such a language structure is usually called amorphous, isolating or monosyllabic... We find traces of the same structure elsewhere in the Caucasus (for instance, in the Circassian languages) and in other parts of the world (for example, in the majority of the Sudan languages in Africa, in the languages of Central America, in Chinese). One can even say that at a certain period of the development of society, all languages must have had such a structure. Only in Abkhaz and Circassian do we find it as a more or less preserved vestige of the past".

5.4. Alexander Genko.

Yakovlev's colleague, Alexander Genko, also spoke of residual monosyllabicity of the main word-stock of Abkhaz/Abaza and of residual analyticity of their linguistic structure, when all grammatical relations were expressed by lexical words (Genko 1955: 78; 1998: 377). Genko (published posthumously in 1998: 394) thought that the agglutinative structure of Abx evolved on the ruins of the former monosyllabic analytical one. However, he did not share (late) Marr's and Yakovlev's glottogonic views on monosyllabicity. In his grammar of Abaza, he emphasized that the predominance of monosyllabic roots cannot be used as a proof of the archaic or primitive period in the evolution of Abaza, as the comparison with other Caucasian languages demonstrates that both monosyllabicity and polysemy of Abaza words can in a number of cases be the result of later simplifications and the falling together of originally more complex and differentiated sound combinations (Genko 1955: 78).

6. From North Caucasian to West Caucasian via an analytic stage?

It is logical to suppose that at a certain period of its history, a NC dialect which gave rise to PWC, in many respects resembled its sister (later > EC) dialects. This would imply a moderately synthetic structure with a tendency to analyticism; a moderately developed nominal and verbal inflection (including Ablaut); a relatively free word order; a moderately developed vocalism and well developed consonantism.

Trubetzkoy (1930a; reprint 1987: 281-282) was certainly right in rejecting Yakovlev's theory of primordial monosyllabicity of WC. Based on correspondences between WC and EC languages, Trubetzkoy argued for the secondary nature of many WC monosyllabic roots, which were the result of complex simplification processes. However, if we put aside Yakovlev's glottogonic approach, the idea that at a certain period in its history the WC passed through an analytical or isolating ("amorphous") stage, and later, due to compounding and incorporation, turned into an agglutinative polysynthetic language type, as we know it today, seems rather productive.

We can thus surmise that early PWC was subjected to a large-scale restructuring, leading to changes at the phonological, morphological and syntactic levels.

In phonology, the changes resulted in the elimination of (nearly) all clusters by dropping one of the consonants; in the loss of many unstressed syllables; in the shift of various root structures to CVCV and CV; in the shift of vocalic timbre onto consonants, leading to the reduction of vocalic contrasts (from at least eight to a binary system) and a significant increase in the number of consonants; in the probable development of a tonal system in the place of lost consonants or syllables.

In morphology the restructuring resulted in the loss of much of the old inflection and the development of analyticism, as well as the weakening of the nominal class system.

Syntactic changes manifested themselves in the increased importance of word order, which became the main means of expressing syntactic relations – on the background of the fading cross-referencing nominal class system.

As a result, the previously mainly synthetic pre-Proto West Caucasian language became analytical, as it happened, for example, in the history of modern Germanic or Romance languages. We can further surmise that at a later stage, the increased role of incorporation and compounding, as well as proclitization of formerly independent pronouns and adverbs, resulted in an agglutinative polysynthetic polypersonal prefixing language type, which was inherited by its modern descendants.

7. The fall of early PWC syllables (PNC *(CC)VC(C)V → PWC *CV).

The comparison with EC cognates proves that early PWC underwent a radical simplification of its root structure along the lines described above. In many cases syllables in poly-syllabic words were dropped, leading to the emergence of monosyllabic roots. Largely, this involved the initial syllables, which can indicate that they were unstressed:

(9) $(C)V(C_1)C_1V_1 \rightarrow C_1V_1$

PLezgi **ʔiƛ’e* ‘to die, kill’, cf. PWC **ƛ’ʲa/ə* ‘to die, kill’;
PLezgi **ʔac’a-* ‘to know; can’, cf. PWC **c’ʲa* ‘to know’;
PAvar-Andi **ʔumco*, cf. PWC **cʷ:ə* ‘ox, bull’;
PNax **mac’e*, PAvar-Andi **noc’:i*, PTsez **nɔcə*, cf. PWC **c’ʲa* ‘louse’;
PAvar-Andi **riƛ’:i*, Xin *lɨk:a*, cf. PWC **Lʲə* ‘meat, flesh’;
PAvar-Andi **ʔičʷa*, PDargi **ʔurči*, cf. PWC **čʰʲʷə* ‘horse’;
PAvar-Andi **rok’ʷo*, PTsez **rɔk’ʷə*, PLezgi **jirk’ʷ*, cf. PWC **gʷʲə* ‘heart’.

In other cases, it was final (probably unstressed) syllables that were lost:

(10) $C(C)V(C_1)C_1V_1 \rightarrow C(^{\vee})V$

PAvar-Andi **colu*, PTsez **s:ɨl*, PDargi **cula*, PLezgi **sɨl:*, Xin *culoz*, cf. PWC **c:a* ‘tooth’;
PAvar-Andi **c’ʷ:arhi* (Axv *c’ʷ:ari*, Kar *c’ʷ:aj*, etc.), PDargi **zuri*, cf. PWC **c’ʷa* ‘star’;
PAvar-Andi **rišin* (Avar *son*, dial. *šon*, Axv *reše*, Kar *rešin*, etc.), PLezgi **s:än* (Archi *s:an*, Udi *usen*), cf. PWC **sʷa/ə* ‘year’;
PAvar-Andi **c’:iri* (Avar *c:ar*, Axv, Kar *c’:eri*, etc.), PLezgi **c’ʷ:er* (Tab *č’:ʷur*, Archi *c’or*), cf. PWC **(p’)c’a* ‘name’.

Incidentally, late PWC clusters were also syllable-initial, which can indicate the place of the stress – on non-initial syllables.

8. Parallel simplification processes in EC languages.

It would be wrong to suggest that it was only WC that underwent significant evolution in the phonetic shape of words. The individual EC languages too underwent considerable changes, which often parallel their evolution in WC. I adduce here but a few examples, demonstrating parallel developments in EC and WC:

(11) Abx *a-c*, Ad *ca*, Kab *ʒa*, Ub *ca-* (PWC **c:a* ‘tooth’), cf. Chech *ce-rg*, Ing *ca-rg*, Bats *ca-rk’* (*-rg/-rk’*, diminutive suf.; PNax **ca*), Avar *ca* vs. Andi *sol*, Cham *sal*^{w}, Kar *sale*, Tindi, Botl, Bagv *salu* (< PAvar-Andi **colu*), Xvar *sel*, Bezh *sila*, Gunz *sɨla* (< PTsez **s:ɨl*), Dargi *cula*, Tsax *sili*, Kryz, Bud *sil* (PLezgi **sɨl:*), Xin *cul-oz* ‘tooth’.

Abx *jac’*^{w}*a*, Ub *c’*^{w}*a-* (PWC **c’*^{w}*a* ‘star’), cf. Avar *c’:*^{w}*a*, Andi *c’:a*, Cham *s’a:* (PAvar-Andi **c’*^{w}*:arhi*), Tsez *ca*, Gin *c*^{w}*a*, Xvar, Gunz *ca*, Bezh *cã* (PTsez **c*^{w}*ã*), Lak *c’u-ku* ‘star’ vs. Axv *c’*^{w}*:ari*, Tindi *c:aru*; Kar *c’*^{w}*:aj*, Bagv *c’*^{w}*:ara*, Godob *c:aji*, Dargi dial. *zure* ‘star’.

Circ *c’a*, Ub *p’c’a*, cf. Chech, Bats *c’e*, Ing *c’i*, Axv dial. *c’:e*, Cham *s’e:* (PAvar-Andi **c’:iri*), Tsez *cɨ*, Gin *ce*, Xvar *cã* (PTsez **c*^{w}*ə̃*), Lak *c’a*, Dargi *zu*, Udi *c:i* (PLezg **c’*^{w}*:er*) vs. Avar *c’:ar*, Andi, Bagv *c’:er*, Axv, Kar, Botl *c’:eri*, Tindi *c’:era*, Godob *c:eri*, Tab *č*^{w}*:ur*, Archi *c’or* ‘name’.

Abx *a-c*^{w}, Ad *c*^{w}*:ə*, Ub *c*^{w}*ə* (PWC **c*^{w}*:ə* ‘ox’), cf. Avar *oc* (PAvar-Andi **ʔumco*), Tsez *is*, Gin *üš*, Xvar *ĩs*, Bezh, Gunz *õs* (PTsez **ʔõs:*), Dargi Kub *us* (PDargi **ʔunc*), Udi *us* (PLezgi **jamc*) vs. Andi *unso*, Axv *ũnča*, Cham, Tindi *musa*, Kar, Botl, Bagv, Godob *unsa*, Lak *nic*, Dargi *unc*, Lezgi, Tsax *jac*, Aghul *bec*, dial. *jac*^{w}, Xin *lac* ‘ox’.

Ub *t’a-k’*^{j} ‘louse’, *t’a-c’*^{j} ‘nit’ (*-k’*^{j} singularity suf., *c’*^{j} ‘egg’; PWC **t’a*), Andi *t’a* ‘nit’ (PAvar-Andi **t’a(ʔ)na*), Lak *t’u*, Udi *t:e* ‘nit’ (PLezg **nät’*) vs. Avar *t’iha*, Axv *t’ani*, Cham, Tindi, Botl, Bagv *t’ana*, Kar *t’ane*, Dargi *net’*, Lezgi, Aghul *net’*, Tab *nit’*, Rut *nät’*, Tsax, Archi *nat’* ‘nit’.

Abx *čə*, Circ *šə*, Ub *č*^{j}*ə* (PWC **č*^{hwj}*ə*), cf. Avar *ču* (PAvar-Andi **ʔič*^{w}*a*), Lak *č*^{w}*u* vs. Andi *iča*, Axv, Tindi, Kar *ič*^{w}*a*, Cham *iša*, Botl, Godob *iča*, Bagv *ič*^{w}, Dargi *urči*, Lezgi *šiw*, Archi *noIš*, Xin *pši* ‘horse’.

Abx *la*, Circ *ħa*, Ub *wIa* (PWC **HI*^{w}*a)*, cf. Avar dial. *h*^{w}*e*, Axv *χ*^{w}*e:*, Tindi *χ*^{w}*a:* (PAvar-Andi **χ*^{w}*oʔi*), Gin, Xvar *ʁ*^{w}*e*, Inxo *ʁI*^{w}*ẽ*, Bezh *wo*, Gunz *wə* (PTsez **ʁI*^{w}*ə̃j*), Dargi *χIa*, dial. *χI*^{w}*:a*, Tsax *χ*^{w}*a*, Udi *χIa* vs. Chech, Ing, Bats *pħu*, Avar *hoj*, Andi *χ*^{w}*oj*, Cham, Kar, Botl *χ*^{w}*aj*, Bagv *h*^{w}*aj*, Godob *χ*^{w}*aji*, Tsez *ʁI*^{w}*aj*, Tab *χuj*, Aghul *ʁuj*, Rut *χij*, Kryz *χ*^{w}*ar*, Bud *χor* ‘dog’.

9. Processes within late PWC: The formation of late PWC clusters (*CVCV > *CCV).

The comparison with EC shows that some currently monosyllabic WC roots were originally disyllabic and shortened due to the syncope of the (unstressed) vowel of the initial syllable, which gave rise to initial PWC clusters.

(12) Avar *raq:u*, dial. *roqo* ‘ashes’, Lak *laχ* ‘ashes, dust’, Archi *laχ* ‘grain peelings’ *vs.* Circ *tχ*^{w}*e* ‘to become grey (of hair)’, ‘grey (of horse)’, Kab *sa-tχ*^{w}*e* ‘ashes’, Abx *q*^{w}*a* ‘ashes’, ‘grey (colour of ashes)’, Ub *q*^{w}*a* ‘ashes’ < PWC **tq*^{w}*a*, probably, from an earlier **dəq*^{w}*á.*

Chech, Ing *barh*, Bats *barλ*, Avar *miƛ':-*, Axv, Tindi, Kar, Botl, Bagv, Godob *biƛ':i-*, Tsez *biƛ-*, Archi *meƛe* 'eight' *vs.* Circ *p'λ'ə*, Abx *pšʲ-*, Ub *p'ƛ'ə* 'four', probably, from an earlier **bəƛ'ə́* (*p'* < **b* through regressive assimilation).

Chech, Ing *mott*, Avar *mac':*, Andi, Axv, Botl *mic':i*, Tindi, Godob *mic:i*, Kar *mac':i*, Tsez, Gin, Xvar *mec*, Gunz, Inxo *mɨc*, Bezh *mic*, Lezgi, Aghul, Kryz, Bud *mez*, Rut, Tsax *miz*, Archi *mac*, Udi *muz*, Xin *mic'*, cf. Circ *bza*, Abx *a-bz*, Abaza *bzə*, Ub *bzʲa* 'tongue', from an earlier stage **bəzá/ə*.

In rare cases, however, it seems that it was EC that created new clusters by a syncope of a vowel, whereas WC kept a *plene* form, cf. Andi *onš:i*, Tindi, Kar, Botl, Godob *unš:i*, Bagv *unš:* 'earth' *vs.* PWC **nəšʷə* 'soil, clay.'[16]

In several instances the clusters in PWC appeared due to an unclear dental prefix (a fossilized grammatical class prefix?; cf. Abdokov 1983: 155), cf. the following numerals:

(13) Avar *k'i*, Dargi dial. *k'ʷi*, Tab *q'Iu*, Archi *q'Iʷe*, Xin *k'u*, cf. Circ *t'ʷə* < **t'q'ʷə*, Abx *ɦʷə*, Ub *t'q'ʷa* 'two'.

Lak *χ:uI–*, Dargi *xu-*, Tab *xu-b*, Rut *xu-d*, Tsax *xo-llä*, Udi *qo*, cf. Kab *txʷə*, Abx *χʷə-ba*, Ub *šʲxə* 'five'.

10. Late PWC root structure.

Once the restructuring of late PWC had occurred, the basic resulting root structures – C(C)V and CVCV – became stable and probably did not change much over a considerable period of time. In this sense, one can note Yakovlev's remark that the WC roots as "products of the amorphous stage, represent petrified, and a not developing further historical remainder" (Yakovlev & Ašxamaf 1941: 216). The only process that was still active in late WC was a strong tendency to further transformation of the remaining CVCV roots, under the influence of (final) dynamic stress, into CCV. This can be demonstrated by the comparison of some Circ, Ub and Abx roots:

(14)	CVCV	>	CCV
	Ad *maxʷa*, Ub *məsʷa*	–	Abx *a-mš* 'day'
	Ad *maʒa*, Ub *məʒa*	–	Abx *a-mza* 'moon'
	Ad *məsʲa*, Ub *məšʷa*	–	Abx *a-mšʷ* 'bear'
	Ub *ɣəba*	–	Abx *a-ɣba* 'ship'

The same process was active in Abx dialects, as seen from the following examples:

---

[16] A similar solution is suggested in NCED 513; Abdokov (1983: 99) reconstructs PNC **našu-*.

(15) Tsab, Tsw Sadz *a-baga* – Bz, Abzh *a-bga* 'wolf'
Sadz *a-bana* – Bz, Abzh *a-bna* 'wood'
Sadz *a-šʷaq'(q')a* – Bz *a-šʷq'ʷə*, Abzh *a-šʷq'(ʷ)ə* 'letter, book'
Sadz *á-ʒʷaʒʷʒʷə-ra* – Bz, Abzh *á-ʒʷʒʷa-ra* 'to wash'

10.1. The preservation of old CV and CVCV roots.

The evidence from modern languages shows that a number of PWC roots were monosyllabic already in PNC; they include pronouns, deictics and some numerals:

(16) Chech, Ing, Bats *so*, Rut *zɨ*, Tsax, Udi *zu*, Xin *zɨ*, cf. Abx *sa*, Circ *se*, Ub *sə-* 'I';
Lak *wi*, Rut, Xin *wɨ*, Tsax *wu*, cf. Abx *wa*, Circ *we*, Ub *wə-* 'thou';
Chech, Ing, Bats *šu*, Lak *zu*, Aghul *ču-n*, Tsax *šu*, Archi *žʷe-n*, Xin *zu-r*, cf. PWC **sʷa* 'you (pl.)';
Chech *cħaʔ*, Ing *caʕ*, Bats *cħa*, Avar *co*, Tsez *sis*, Xvarsh *has*, Lak *ca*, Lezg, Tab, Rut, Tsax, Udi, Xin *sa*, cf. Abx **za*, Circ *zə*, Ub *za* 'one'.

Besides, many nominal NC disyllabic roots of the structure CVCV were preserved in WC:

(17) Tsez *q'aInq'u*, Gin *q'aq'u* 'tubular bone', Dargi *q'uq'a*, dial. *q'ʷaq'a* 'knee', cf. Abx *a-q'ʷaq'ʷa* 'back' (anat.), Abaza *q'ʷaq'ʷa* 'hip-bone'.
Andi *borc':i*, Axv *boc':o*, Tindi *boc':u*, Kar *borc':o*, Botl *purc':u*, Godob *purc:u*, Tsez *buci*, Gin *buce*, Xvar *buca*, Bezh, Gunz *boco*, cf. Ad *maze*, Ub *məʒa* 'moon'.
Avar *mik:i*, Dargi *lah(w)a*, (Xaid) *lihwa*, (Urax) *lawha*, (Muir, Kajtag) *lahʷa*, (Kub) *na/exʷa*, Rut *lirxʷa/oj* 'pigeon', cf. Abx *a-laħʷa* 'rook, raven', Ub *daχʷa* 'dove'.[17]
Tsez *t'umi*, Xvar *t'ema*, Bezh *t'imo* 'pigeon', Dargi *t'uma* 'owl', cf. PWC > Ub *dəma* 'hen'.
Chech *deši* 'gold', Dargi *dubsi*, dial. *dabs:e* '(red) copper', Tab *jišʷu-r* 'gold', cf. Kab *dəśe* 'gold'.
Andi, Axv, Tindi, Botl, Godob *miq':i*, Cham, Bagv *miq':*, cf. Ub *məʁʲa* 'road, way' (Abx *a-mɦʷa* < **məɦʷa*).
Chech, Ing *baza* 'fir-tree', Lak *wac'a* 'forest', Ad *mazə* 'forest', Ub *məʒʲə* 'prickle, thorn'.
Chech *daš*, oblique stem *doša-*, Avar *t'oxi*, Andi, Botl, Godob *t'uši*, Axv *t'oša*, Cham, Tindi *t'oha*, Kar *t'oše*, cf. Ashx *t'asa* 'lead (metal)' (Abx *a-t'sa* < PAbx **t'asa*).

11. EC-WC correspondences in affixes.

---

[17] This comparison differs from that proposed in NCED (pp. 748-749).

Although the analytical stage in the history of WC languages seems to be plausible, PWC might have preserved at least partially some old grammatical morphemes, which can be judged from the fact that WC and EC do in fact share, beside lexical roots, also a number of affixal morphemes. Of the comparable WC-EC correspondences in affixes the following ones can be mentioned:[18]

(18)

PWC	PEC	
*_mə_	*_ma_	prohibitive/negative particle
*_čə-_ (PAbx)	*_č[ŭ]_	reflexive pronoun/affix
*_-gʲə_	*_-gi_ /*_-gu_	enclitic particle 'and'[19]
*_-ra_ (PCirc)	*_-ra_	enclitic particle 'and'
*_-ba_, *_bə-_, *_ba_ (PAbx)	*_b-_	suffixal marker of numerals for non-human referents; prefix of 2nd person (fem.), personal pronoun 'thou' (fem.) (PAbx); prefixal marker denoting animals and some inanimate things or phenomena (PEC)
*_-ara_ (PAbx)	*_-ar_	plural suffix
*_-la_	*_-l(a)_	durative suffix
*_-n_ (PAbx)	*_-na_	past tense suffix
*_-m_ (PCirc)	*_-m_	ergative/oblique (PCirc) or oblique case (PEC) suffix
*_-da_	*_-d(a)_	optative suffix
*_-rə_ (PCirc)	*_-r(a)_	participial or converbial suffix
*_-gʷʲa_	*_-gwa_	adverbial suffix
*_cʲə-_ (PAbx)	*_-ci̱_	comitative affix
*_-na/ə_	*_-n_	locative suffix (PWC),[20] genitive suffix (PEC)
*_-nə_ (PAbx, Ub)	*_-na_	converbial/adverbial suffix[21]
*_-sa_	*_-se̱_	adverbial/participial (PWC), instrumental (PEC) suffix
*_-da_	*_-di_	directional/locative particle (PWC), locative suffix (PEC).

---

[18] Here the PWC reconstructions are mine, PEC forms are from Trubetzkoy (1930), Abdokov (1983; 1981), NCED, Alekseev (1988; 2003), and Starostin (2007).

[19] Cf. Abx *a-gazet'-kʷa-gʲə a-žurnal-kʷa-gʲə*, Avar *gazet-al-gi žurnal-al-gi* 'newspapers and magazines'. Noteworthy is also a parallelism in the formation of negative polarity pronouns, cf. Avar *co-ni-gi*, Abx *ak'-gʲə*, Kab *zəjəč'* < *zə-jə+k'ʲ* < *_zə-jə+gʲə_ 'nothing', lit. 'one-and'; the same model is typical for other EC languages, cf. Lezgi *sad-ni*, Aghul *sad-ra* 'nobody', lit. 'one-and'.

[20] Probably connected with verbal root *_na/ə_ 'be/remain somewhere' (cf. Chirikba 1996: 368).

[21] Cf. Aghul *xuru-na* 'having read', Abx *s-a-pχʲa-nə* 'it-I-having read', Rut *hagu-j-nə* 'having seen', Abx *jə-ba-nə* 'it-having seen', Archi *abu-na* 'having done', Abx *jə-q'ac'a-nə* 'it-having done', Rut *ɦagu-j-nə* 'having seen', Abx *d-ba-nə* 'him/her-having seen', Bud *sɨħɨ-nɨ* 'being', Abx *jə-q'a-nə* 'it- being', etc. In the adverbial function: Rut *temiz-na*, Abx *jə-ckʲa-nə* 'cleanly', Rut *jəxa-na*, Abx *jə-bzəja-nə* 'well', etc. Cf. also a similar use of this suffix in temporal terms: Tab *čw-nu*, Aghul *cul-a-na*, Abx *tagala-n* 'in the autumn', Archi *iqʰ-na* 'in the day-time', Abx *a-č-nə* 'on that day' (EC forms are from Alekseev 1985: 101-102).

In a number of these cases we can probably speak of originally separate particles (as in the case of coordinating conjunctions), floating enclitics (as the negation marker, which even synchronously can function in WC as a prefix, infix or suffix) or even independent words, like pronouns (cf. the reflexive affix, the marker of ergative/oblique case),[22] which only later became incorporated in both branches into nominal or verbal paradigms.

The fact that EC orientational case suffixes, which express localization, correspond etymologically to WC orientational preverbs, indicates the derivation of both from independent adverbials or similar classes of independent words (cf. Abdokov 1983a; 1983: 75; Alekseev 1988: 174). However, it can also be that some of these cognates could have been affixal morphemes already in NC and thus inherited by both branches.

Among few genuinely inflectional affixes common to EC and WC were perhaps old class and plurality markers[23] (see above; cf. also NCED 85; Abdokov 1981: 62-3, 66-76). Old class markers are presumably traceable in Abx numerals (Abx *-ba* suf. of non-human class in numerals, as in *jʷ-ba* 'two', *pšʲ-ba* 'four', etc.) and probably in the human feminine pronoun *ba* 'thou'.

12. The late PWC's dominant root structures.

The counting of various PWC root structures as presented in NCED reveals the following ratio:

(19)	VCV	-	10
	CV	-	289
	CCV	-	29
	CVCV	-	289
	all PWC roots	-	684

This shows that:

(a) PWC had relatively few roots with initial clusters and even fewer roots with initial vowels.

(b) The number of roots of the CVCV structure is in essence equal to that of the CV structure, which is rather unexpected, given the traditional view of the predominance of monosyllabic roots in WC. It was noted already by Trubetzkoy (1987: 281) that some WC correspondences are disyllabic (esp. many nouns), and this disyllabic structure should be reconstructed for the NC epoch.

---

22. M. Kumakhov (1984: 84) derives the Circ ergative suffix *-m* from the independent deictic pronoun *mə*.

23. The fact that WC languages lack common plural markers, and probably only Abx preserves the old NC pluralizer, while Ub lacks any nominal pluralizers, might indicate that the process of the loss of old inflection was continued even after the split of CWC into individual languages.

The early PWC had thus a statistically greater number of disyllabic than monosyllabic roots, which means that Yakovlev's theory about the original monosyllabicity of WC roots should be abandoned (cf. Trubetzkoy 1987: 281-282; Abdokov 1981: 30). On the other hand, a great number of disyllabic roots in PWC must dispel usual objections to the possibility of establishing sound correspondences between WC and EC cognates because of the perceived monosyllabic character of the former.

13. Factors triggering the evolution of WC.

The triggering factors for the radical restructuring of a language's structure can be, on the one hand, the development of certain features inherently present in the system of the maternal proto-language in the conditions of geographic isolation from sister languages and, importantly, intensive contact with neighbouring allo-structural idioms.

One of the internal driving forces for the phonetic changes in PWC was, according to Abdokov (1981), a tendency to rising sonority (or the law of open syllable), which meant that final consonants were weakened and dropped and the syllable structure became uniformly (CV)CV. This led to a near-complete loss of old (inflectional and derivational) morphology, which was mainly suffixal (cf. Marr's early ideas presented above). Besides, it led to the appearance of a great number of monosyllabic homophonous roots/words. These latter were probably distinguished by means of tones (cf. Dybo 1989 on the WC tonal hypothesis), risen in place of the lost consonants (especially laryngeals and resonants). The mono- or disyllabic root became equal to a morpheme and a word.

In the condition of the fading system of nominal classes (which however managed to survive in Abx, cf. Abdokov 1981: 54-65), the main means to express syntactic relations between isolated and inflection-less words had to become fixed word order (see Chirikba 2010). It is possible that ablaut too played a role, serving to distinguish grammatical forms.

The law of rising sonority helps to explain rather well the mechanism of the revolutionary "perestroika" in the word structure, as well as profound changes caused by this process in the phonemic, prosodic, morphological and syntactic systems of the early WC proto-language. It is more difficult to say, however, what triggered this process in the first place – the internal development of some of the tendencies already inherent in the proto-language or, more probably, language contact, or perhaps the combination of both.

As noted by R. Beekes (1995: 71), "languages which are isolated, and depend for change on internal factors only, undergo little change. On the other hand, languages may undergo rapid change within a relatively short span of time, especially in times of social and political upheaval. It appears therefore that the influence of other language systems remains the single most important factor underlying sound change".

The intensive language contact as the main factor responsible for the fundamental restructuring of the early PWC dialect was suggested by Trubetzkoy (1930: 111), who suggested that such deep structural deviations of WC from EC, as, for instance, the atrophy of the WC vocalic system, could be understood only by supposing a language mixture. According to him, "WC could have thus emerged through a mixture of an idiom very close to PEC with some other language". Proceeding from this, we can probably speak in terms of creolization of the early PWC dialect, which could happen as a result of migration, either of the speakers of the early PWC dialect to a new habitat which had an older population, with which they then mixed, or, vice versa, a migration of speakers of another language who moved to the territory occupied by the bearers of early PWC.[24]

In any event, it is quite obvious that these developments in PWC took place in the condition of its geographical isolation from speakers of the sister-PEC dialect(s), which in the main remained quite conservative and unresponsive to external pressure. This in turn may indicate that EC was developing in a habitat geographically more isolated from external influences. Early PWC was, as it seems, on the contrary, exposed to intensive language contact, which resulted in the above-mentioned significant re-structuring.

However, after it eventually evolved, having acquired nearly all the features of its modern make-up, late PWC (= CWC) remained stable over a considerable period of time. This might indicate that late CWC was not exposed to significant external linguistic influences or contacts, and the only factor in its slowed evolution was contact between its separated dialects.

14. Conclusions.

The comparison of PWC with EC languages suggests that late PWC underwent a fundamental restructuring of its phonological, morphological and syntactic systems. Everything points to the fact that after the WC separated from common North Caucasian and before it acquired the guise which is preserved by its modern continuations, it was transformed into a different system, which was analytical, with elementary inflection and with main grammatical roles and relations being expressed by lexical means, word order and probably also by apophony and tones. The subsequent changes led to the development of compounding and incorporation.

The evolution of early PWC into late PWC included the following processes. In phonology: the weakening of the role of tones and the appearance of a dynamic stress system; the appearance of consonant clusters due to the syncope of vowels in unstressed syllables; the dominant models of root structure becoming VC, C(C)V, and CVCV. In morphology, the transformation process led to the increased role of compounding in derivation; the development of incorporation and agglutination; the incorporation of previously independent pre-verbal personal and deictic pronouns, as well as local, temporal, directional and orientational adverbs into the verbal forms; the increased role of prefixation; the development of polysynthetism. In syntax, it resulted in the weakening of the role of word order.

---

[24] In the event of the migration of speakers of PWC to the Caucasus, their most probable original *Urheimat* can be placed in north-central or north-eastern Asia Minor.

The main evolutionary shift from the NC dialect to the modern WC languages was thus, first, from agglutinative to the analytical language-type (due to a near complete loss of inflection), and then from the analytical to the agglutinative (poly)synthetic type.

Cross-linguistically, there are examples of similar diachronic changes in morphological type. Cf., for instance, the evolution of English from inflectional to analytical structure, or Chinese from agglutinative to the isolating type. However, an even more striking parallel to the evolution of WC is provided by French.[25] In the latter case we do know sufficiently well the stages which led the fully inflectional synthetic Latin, via Vulgar Latin, first to the analytical structure of early modern French and finally to the arguably polysynthetic-like structure of present-day colloquial (non-standard) French. Indeed, modern spoken French demonstrates how an analytical language can become polysynthetic by means of incorporation or fusion of originally discrete pronouns and grammatical words.

Let us take as an example the following phrase: *que je ne t'aime pas* 'the fact that I don't love you', pronounced in colloquial speech as [kəʃtɛˈmpa].[26] If French was an unwritten language and a field linguist would purport to describe it, one of the predictable outcomes would be its description in terms of a polysynthetic language rather than a basically analytical language with some elementary nominal inflection, as we know it from standard textbooks. In case of the cited phrase, we would in fact have a typically WC-type polysynthetic verbal form, containing two agreement (subject and object) markers, as well as subordinating and negation markers:

(20) *kə-ʃ-t-ɛm-pa*
SUB-1SG-2SG-love:PRES-NEG

(21) cf. Abx: *bzəja* *bə-šə-zə-m-ba-wa*
well 2SG:FEM-SUB-1SG-NEG-see-PRES:DYN:NFIN
'The fact that I don't love you'.

From the material presented in this paper, a natural conclusion should be drawn that, in principle, there is no direct correlation between the language type/structure and its genetic affiliation. It is true, that related languages tend to maintain similar morphological structures, due to the retention of features inherited from the common ancestor; cf. for instance Baltic or Slavic languages, which preserve important features of the maternal IE system. Some other languages, on the contrary, show striking deviations from the older system.

---

[25] The analogy between the polysynthetic structure of WC and of modern colloquial French was suggested to me by Dr. Rieks Smeets (p.c.); see also a lively debate on this topic on the fora on the internet.
[26] The comment on the actual pronunciation of this phrase was provided to me by Dr. René Lacroix.

In one or another way, Proto-West Caucasian too changed its original structural type and developed into a system, which significantly deviates from that of the related EC languages, and which for some may blur the genetic relationship between these two NC branches. However, this relationship can be satisfactorily proven by the application of standard procedures of comparative-historical linguistics, which was so eloquently put forward in the first decades of the 20th century by Nikolay Trubetzkoy and which was definitively demonstrated by modern historical linguists, Sergei Starostin, Sergei Nikolayev and Auez Abdokov.

Abbreviations:

Abx	Abkhaz	NC	North Caucasian
Abzh	Abzhywa dialect of Abx	NEG	Negative
Ad	Adyghe	NFIN	Non-Finite
AN	Akademija Nauk (Academy of Sciences)	PAbx	Proto-Abkhaz
		PAvar-Andi	Proto-Avar-Andi
Ashx	Ashkharywa Abaza	PCirc	Proto-Circassian
Axv	Akhvakh	PDargi	Proto-Dargi
Bagv	Bagvala	PEC	Proto-East Caucasian
Bezh	Bezhta	PIE	Proto-Indo-European
Botl	Botlikh	PLezgi	Proto-Lezgi
Bud	Budukh	PNax	Proto-Nakh
Bz	Bzyp dialect of Abx	PNC	Proto-North Caucasian
Cham	Chamala	PTsez	Proto-Tsez
Chech	Chechen	PWC	Proto-West Caucasian
Circ	Circassian	PRES	Present
CWC	Common West Caucasian	PUb	Proto-Ubykh
DYN	Dynamic	Rut	Rutul
EC	East Caucasian	SG	Singular
FEM	Feminine	SUB	Subordinative
Gin	Ginukh	Tab	Tabasaran
Godob	Godoberi	Tsab	Tsabal dialect of Abx
Gunz	Gunzib	Tsax	Tsakhur
IE	Indo-European	Tsw	Tswydzhi dialect of Sadz
Ing	Ingush	Ub	Ubykh
Inxo	Inxokvari	WC	West Caucasian
Kab	Kabardian	Xaid	Xaidak dialect of Dargi
Kar	Karata	Xin	Xinalug
Kart	Kartvelian	Xvar	Khvarshi
Kub	Kubachi dialect of Dargi		

Literature

Abdokov, A.I. 1981. *Vvedenie v sravnitel'no-istoričeskuju morfologiju abxazsko-adygskix i naxsko-dagestanskix jazykov [Introduction into the Comparative-Historical Morphology of the Abkhaz-Adyghean and Nakh-Daghestanian Languages]*. Nal'čik: Kabardino-Balkarskij Gosudarstvennyj universitet.

Abdokov, A.I. 1983. *O zvukovyx i slovarnyx sootvetstvijax severokavkazskix jazykov [On Sound and Lexical Correspondences of the North Caucasian Languages]*. Nal'čik: El'brus.

Abdokov, A.I. 1983a. Glagol'nye preverby zapadnokavkazskix i padežnye formanty vostočnokavkazskix jazykov [Preverbs of the West Caucasian and Case Suffixes of the East Caucasian Languages] // *Sistema preverbov i poslelogov v iberijsko-kavkazskix jazykax*. Čerkessk, p. 136-143.

Alekseev, M.E. 1985. *Voprosy sravnitel'no-istoričeskoj grammatiki lezginskix jazykov. Morfologija. Sintaksis [Problems of Comparative-Historical Grammar of the Lezgian Languages. Morphology. Syntax]*. Moskva: Nauka.

Alekseev, M.E. 1988. *Sravnitel'no-istoričeskaja morfologija avaro-andijskix jazykov [Comparative-Historical Morphology of the Avar-Andi Languages]*. Moskva: Nauka.

Alekseev, M.E. 2003. *Sravnitel'no-istoricheskaja morfologija naxsko-dagestanskix jazykov. Kategorija imeni [Comparative-Historical Morphology of the Nakh-Daghestanian Languages. The Category of the Noun]*. Moskva: Academia.

Bálint-Illyés (de Szentkatolna), G. 1904. *Lexicon Cabardico-Hungarico-Latinum*. Kolozsvar: Typographeo gutenbergiano koloszvariensi.

Balkarov, B.X. 1979. *Vvedenie v abxazo-adygskoe jazykoznanie [Introduction into the Abkhazo-Adyghean Linguistics]*. Nal'čik: Kabardino-Balkarskij Gosudarstvennyj Universitet.

Beekes, R. 1995. *Comparative Indo-European Linguistics: An Introduction*. Amsterdam: John Benjamins Publishing Company.

Charachidzé, G. 1967. Position structurelle du géorgien parmi les langues caucasiques // Revue de l'École Nationale des Langues Orientales. 4. Paris: Presses Universitaires de France, p. 29-63.

Chirikba, V. 1991. *Aspekty fonologičeskoj tipologii [Aspects of Phonological Typology]*. Moskva: Nauka.

Chirikba, V. 1996. *Common West Caucasian. The Reconstruction of its Phonological System and Parts of its Lexicon and Morphology*. Leiden: Research School CNWS.

Chirikba, V. 2008. The Problem of the Caucasian Sprachbund // *Pieter Muysken (ed.). From Linguistic Areas to Areal Linguistics. – Studies in Language Companion Series (SLCS). Volume 90.* John Benjamins Publishing Company: Amsterdam/ Philadelphia, p. 25-93.

Chirikba, V. 2010. Reconstructing Proto-Syntax: The Case of West Caucasian // *Studies in Honor of Prof. Denis Creissels. Essais de typologie et de linguistique générale. Mélanges offerts à Denis Creissels. Sous la direction de Franck Floricic*. Lyon: ENS Éditions, p. 327-337.

Colarusso, J. 1989. Proto-Northwest Caucasian (or how to crack a very hard nut) // Aronson, H. (ed.). 1989. *The Non-Slavic Languages of the USSR. Linguistic Studies.* Chicago: University of Chicago, p. 20-55.

De Charencey, H. 1862. Des affinités des langues transgangétiques avec les langues du Caucase. Extrait des *«Mémoires de l'Académie des sciences, arts et belles-lettres de Caen"*. Caen: A. Hardel, 13 p.

Deeters, G. 1931. Der abchasische Sprachbau. *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen. Philol.-hist. Klasse*, 289-303. Berlin.

Deeters, G. 1955. Gab es Nominalklassen in allen kaukasischen Sprachen? // *Corolla Linguistica. Festschrift Ferdinand Sommer*. Wiesbaden: Otto Harrassowitz, p. 26-33.

Dumézil, G. 1932. *Études comparatives sur les langues caucasiennes du nord-ouest (morphologie).* Paris: Adrien-Maisonneuve.

Dybo, V.A. 1989. Tipologija i rekonstrukcija paradigmatičeskix akcentnyx system [The Typology and Reconstruction of Paradigmatic Accentual Systems] // *Istoricheskaja akcentologija i sravnitel'no-istoričeskij metod.* Moskva: Nauka, p. 7-45.

Ellis, George. 1788. *Memoir of a map of the countries comprehended between the Black Sea and the Caspian; with an account of the Caucasian nations, and vocabularies of their languages.* Printed for J. Edwards, London.

Gamkrelidze, T., Ivanov, V. 1984. *Indoevropejskij jazyk i indoevropejcy [The Indo-European Language and Indo-Europeans]*. Tbilisi: Tbilisskij universitet, vol. I.

Genko, A.N. 1955. *Abazinskij jazyk. Grammatičeskij očerk narečija Tapanta [The Abaza Language. The Grammatical Sketch of the Tapanta Dialect]*. Moskva-Leningrad: AN SSSR.

Genko, A.N. 1998. *Apsua-aurəst*$^{'w}$ *ž*^{w}*ar. Abxazsko-russkij slovar'. Pervoe izdanie. Podgotovil k pečati, snabdil predisloviem i kommentarijami kandidat filologičeskix nauk T. X. Xalbad [Abkhaz-Russian Dictionary. The First Edition. Prepared for Publication, With a Foreword and Comments by the Candidate of Philological Sciences T.X . Xalbad]*. Suxum: Alašara.

Güldenstädt, J. A. 1834. *Beschreibung der kaukasischen Länder*. Berlin.

Klaproth, Julius von. 1814. *Travels in the Caucasus and Georgia, Performed in the Years 1807 and 1808, by Command of the Russian Government. Translated from the German by F. Shoberl.* London: Henry Colburn.

Klaproth, Julius von. 1823. *Asia Polyglotta*. Paris.

Klaproth, Julius von. 1827. Tableau historique, géographique, éthnographique et politique du Caucase et de provinces limitrophes entre la Russie et la Perse. Paris: Pontieu et C^{ie}.

Kuipers, A. 1963. Caucasian // T.A. Sebeok (ed.). *Current trends in linguistics. Vol. 1. Soviet and East European linguistics*. The Hague: Mouton, p. 315-344.

Kumakhov, M. 1984. *Očerki obščego i kavkazskogo jazykoznanija [Sketches of General and Caucasian Linguistics]. Nal'chik*: El'brus.

Liulie, L. 1857. Obščij vzgljad na strany, zanimaemye gorskimi narodami, nazyvaemymi Čerkesami (Adige), Abxazcami (Azega) i drugimi smežnymi s nimi [A General View on the countries Occupied by Mountainous Peoples Called Circassians (Adige), Abkhazians (Azega) and Others Neighbouring to Them] // *Zapiski Kavkazskogo otdela imperatorskogo Rossijskogo Geografičeskogo obščestva, kniga IV*.

Marr, N.Ja. 1912. K voprosu o položenii abxazskogo jazyka sredi jafetičeskix [On the Question of the Position of Abkhaz Among the Japhetic Languages] // *Materialy po jafetičeskomu jazykoznaniju*. Vol. V. S.-Peterburg.

Marr, N.Ja. 1933. Značenie i rol' izučenija nacmen'šinstva v kraevedenii [The Significance and Role of the Study of an Ethnic Minority in a Region] // Marr, N.Ja. *Izbrannye raboty. Tom pervyj. Etapy razvitija jafetičeskoj teorii*. Leningrad: Izdatel'stvo Gosudarstvennoj Akademii Istorii Material'noj Kul'tury, p. 230-248.

Marr, N.Ja. 1936. Obščij kurs učenija ob jazyke [The General Course of the Teaching About the Language] // N. Ja. Marr. *Izbrannye raboty, vol. II. (Osnovnye voprosy jazykoznanija).* Leningrad: Gosudarstvennoe social'no-ekonomičeskoe izdatel'stvo.

Marr, N.Ja. 1938. *O jazyke i istorii abxazov [On the Language and the History of the Abkhazians]*. Moskva-Leningrad.

NCED Nikolayev, S., Starostin, S. 1994. A *North Caucasian Etymological Dictionary*. Moscow: Asterisk Publishers.

Pallas, P.S. 1803. *Bemerkungen auf einer Reise in die südlichen Statthalterschaften des Russischen Reichs in den Jahren 1793 und 1794. Erster Band. Mit Kupfern und Karten*. Leipzig: Gottfried Martini.

Rosen, G. 1846. *Ossetische Sprachlehre nebst einer Abhandlung über das Mingrelische, Suanische und Abchasische*. Berlin.

Schmidt, K.-H. 1972. Problemy geneticheskoj i tipologicheskoj rekonstrukcii kavkazskix jazykov [Problems of genetic and typological reconstruction of the Caucasian languages] // *Voprosy jazykoznanija*, № 4, p. 14-25.

Starostin, S. 1978. Rekonstrukcija praabxazoadygskoj sistemy soglasnyx [The Reconstruction of the Proto-Abkhaz-Adyghean Consonant System] // *Konferencija "Problemy rekonstrukcii". Tezisy dokladov*. Moskva, p. 96-101.

Starostin, S. 1999. The Problem of Genetic Relationship and Classification of Caucasian Languages: Basic Vocabulary // H. van den Berg (ed.). *Studies in Caucasian Linguistics. Selected papers of the Eight Caucasian Colloquium*. Leiden: Research School of Asian, African and Amerindian Studies (CNWS), p. 79-94.

Starostin, S. 2007. A Review of V.A. Chirikba's "Common West Caucasian" // S.A. Starostin. *Trudy po jazykoznaniju*. Moskva: Jazyki slavianskix kul'tur, p. 682-744.

Trubetzkoy, N.S. 1922. Les consonnes latérales des langues Caucasiques-Septentrionales // *Bulletin de la Société de Linguistique de Paris*, t. 23 (№ 72). Paris, p. 184-204.

Trubetzkoy, N.S. 1930. De Verwandtschaftsbeziehungen der nordkaukasischen Sprachen // *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, Bd. 84, p. 111.

Trubetzkoy, N.S. 1930a. Nordkaukasische Wortgleichungen // *Wiener Zeitschrift für die Kunde des Morgenlandes*. Bd. XXXVII, heft 1-2. Wien, p. 76-92.

Trubetzkoy, N.S. 1987. *Izbrannye trudy po filologii*. Moskva: Progress.

Uslar, P. 1887. *Etnografija Kavkaza. Jazykoznanie. Abxazskij jazyk [Ethnology of the Caucasus. Linguistics. The Abkhaz Language]*. Tiflis.

Yakovlev, N.F. 2006. *Grammatika abxazskogo literaturnogo jazyka [A Grammar of Literary Abkhaz]*. Suxum: Alašara [finished in 1951].

Yakovlev, N.F., Ašxamaf, D.A. 1941. *Grammatika adygejskogo literaturnogo jazyka [A Grammar of Literary Adyghe]*. Moskva-Leningrad: Izdatel'stvo Akademii Nauk SSSR.

Comments on V.A. Chirikba's "From North to North West: How North-West Caucasian Evolved from North Caucasian"

Václav Blažek
Masaryk University

The author of the present contribution, a native speaker of Abkhaz, who unites in one person the approaches of both the Moscow and Leiden accentological and comparative linguistic schools, represents one of the most competent linguists in the field of the Northwest Caucasian languages, not only at the present time, but from the beginning of scientific research on these languages two centuries ago. His new article is extraordinarily valuable, since he introduces us to the research on comparative phonology and morphology of the Northwest Caucasian languages in the context of history of this discipline, contrary to almost all other authors, who have only written for insiders. No less valuable are Chirikba´s observations concerning typological characteristics of the Northwest Caucasian languages in comparison with the Northeast Caucasian languages, which are parallel to the development of French from Latin to its colloquial spoken form.

I have no critical remarks on Chirikba´s article. I would only expect that he also include among the renowned specialists Georgij A. Klimov (1928–1997), who had written several studies in which he worked with material of the Northwest Caucasian languages:

Klimov, G.A. Abxazsko-adygskie ėtimologii I (iskonnyj fond). *Ėtimologija* 1965 [1967], 296-306.

Klimov, G.A. Abxazsko-adygskie ėtimologii II (zaimstvovannyj fond). *Ėtimologija* 1966 [1968], 289-295.

Klimov, G.A. Abxazoadygsko-kartvel'skie leksičeskie paralleli. *Ėtimologija* 1967 [1969], 286-295.

Klimov, G.A. Kavkazskie ėtimologii, 1-9. *Ėtimologija* 1968 [1971], 223-230.

Klimov, G.A. *Einführung in die kaukasische Sprachwissenschaft.* Hamburg: Buske 1994.

Klimov, G.A. & M.Š. Xalilov. *Slovaŕ kavkazskix jazykov. Sopostavlenie osnovnoj leksiki*. Moskva: vostočnaja literatura 2003.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

Remarks on V. A. Chirikba, "From North to North West: How North-West Caucasian Evolved from North Caucasian"

John Colarusso
McMaster University[1]

Anyone working on the languages of the Caucasus must wonder at some point whether the North West languages (henceforth WC, following Chirikba) and the North East ones (henceforth EC) are distantly related. Dr. Chirikba's article is a welcome addition to this issue. Dr. Chirikba notes many typological parallels, parallels that the two groups share to the exclusion of the South Caucasian or Kartvelian family (Georgian, Laz, Mingrelian, Svan). He also gives a thorough history of the scholarship devoted to this issue. In this aspect, he has made a thorough and lucid contribution.

Still, there are some matters in this work with which I disagree. I shall first present three major criticisms, and conclude with some minor points.

First, in the course of his exposition he addresses one of the manifest differences: the case system in EC is reputed to be one of the richest known, while that of WC is meager, two (perhaps four) for Circassian, one (perhaps two) in Ubykh, and none at all in Abkhaz (including Abaza). By some accounts the EC language Tabasaran has over fifty cases. In fact, however, the Daghestani branch of EC achieves such richness by having four or five basic cases: absolutive (unmarked), ergative, genitive, and dative. The rest of the so-called cases are built upon the ergative, through a combination of location suffixes, say for example, 'top' and with the possible addition of yet more kinetic suffixes, 'to the top, away from the top, across the top, at the top,' etc. (See Comrie and Polinsky 1998). The Vai Nakh languages fail to do this, but instead have regular cases. Ingush, for example has eight cases (Nichols, 2011). Chirikba holds to the original view that EC had enormous case systems and that this presents a typological divide between WC and EC. As a unifying feature, he notes that both groups have ergative case systems when they do have case. Even Abkhaz, which lacks case, has morphological ergativity.

It is quite plausible that given enough time and differences of setting and outside influence, an originally unified Proto-North Caucasian (henceforth PNC) might well evolve into two distinct branches with differing case typologies, but this is nowhere near the historical difficulty that Chirikba assumes it to be. Certainly the central Caucasus is now occupied by the Iranian language, Ossetic and has been for at least the past two millennia, but it is not clear if this is enough time for the divergence to take place. I suspect not. Chirikba is implying that the WC group came under some external influence from which the EC group was shielded. I have argued (Colarusso 1997; 2005; see also

---

[1] colaruss@mcmaster.ca

Bomhard 2015) that the most plausible neighbor to WC at an early period was Proto-Indo-European (PIE), in fact, that (PIE) was a branch of a phylum from which WC also evolved, perhaps including even more remotely EC as well. Chirikba fails to make any suggestions as to what this outside influence on WC might be. If PIE was close, then its elaborate case system (eight by most accounts) would not have been the undoing of a system that might be assumed for a PNC, something like the Vai Nakh systems. In sum, however, the EC case system does not present a substantial typological contrast to that of WC, so this is not a real problem for the historian.

Second, Chirikba then turns to the typologically unusual vowel system of WC, the vertical system, quite distinct from the entirely normal systems found in EC languages (though /o/ is rare), He alludes to my work suggesting that part of the consonantal coloring arose from old class prefixes (Colarusso 1994). Despite the acceptance that the consonantal coloring of WC arose from vowel coloring, with vowels of a typologically normal range, Chirikba then argues for three sorts of colored consonants in WC, rounded, palatalized, and rounded-palatalized, that is ones with w-coloring, y-coloring, and ü-coloring.

While this last will be used to tie a few WC forms into cognate sets with EC ones, its real origin lies in an adherence to the Neo-Grammarian stricture of regularity among sound correspondences, an adherence that Chirikba used in his excellent doctoral thesis (1996), but one which leads to an unrealistic number of proto-phonemes in the mother language, more than 150. Ü-coloring arises when comparing Circassian and Abkhazian, on the one hand, with Ubykh on the other. Where the first two show rounded consonants, Ubykh will typically show a palatalized one, as in (1).

(1) Source for ü-coloring hypothesis

Circ(assian) /-k’°e-/ ‘to go’

Ub(ykh) /-k’^{y}e-/ *id.*

Unfortunately, coloring among these languages is not so simple. One can find matches where Circassian shows palatalization and Ubykh shows rounding, (2):

(2) Opposite coloring from (1)

Circ (Kabardian) /-wek’^{y}e-/ ‘to kill’

Ub(ykh) /-k’°-/ *id.*

Further, one must look for all possible matches of rounding and palatalization, along with forms that lack any coloring, not only between languages but even within the same language. Note the forms in (3) within the same language (Colarusso, 1994, pp. 9-10, and various forms throughout, often between languages).

(3) Other coloring correlations

a. Ø ~ w

Circ. /ḥarze/ ‘to soar, hover’
(Kabardian) /x̂°arze/ *id*., ≤ */x̂ˁ°arze/ ≤ */harza/ ≤ */w-ḥarza/
Ub /-t-/ ‘to be, exist (indefinite present or adverbial sense)
/-t°-/ ‘to be, exist’

b. Ø ~ y

Circ /šx̂əde/ ‘to chide some one’
/šʸx̂ə/ ‘to laugh at some one’ ≤ */yə-šx̂ə/ ‘at-laugh’
Ub /čədə/ ‘donkey’
/čʸə/ ‘horse’
/čʸa/ ‘horseman’
Ub /č’a-fa/ mouth-nose, ‘front’
/č’ʸa/ ‘mouth’

Then there are forms that cannot be explained except by assuming a morphological leveling among forms that must have been productive in the mother language, (4).

(4) Forms reflecting *w-X ~ *y-X and *y-X ~ *w-X,

a. *w-X ~ *y-X

Circ /-w-e-/ hit-at, ‘to hit’
Ub /-ya-/ ‘to hit’

b. *y-X ~ *w-X

Circ /-y-e-/ direction-to, at
Ub /-wa-/ ‘to, in a mass’ (preverb)

c. *X-y ~ *w-X

Circ /-y/ ‘big’ (suffixal adjective)
Ub /wá/ ‘big, long’

The forms in (4) are best explained as surviving affixes once attached to roots that were easily lost or "absorbed." For (4b) Abkhaz suggests an answer in that the preverb for 'to, in a mass, at, toward' is /-a-/, yielding a Proto-WC form */w-a-/ or */y-a-/ with varying grammatical class markers. The odd intransitivity of the forms in (4a), glossed literally as "hit to someone, something", might be seen as an appropriation of the original */-a-/ preverb to function as a verbal root. The forms in (4c) require further investigation.

Disposing of ü-coloring and attributing the alternation of coloring to separate morphemes has two large advantages. First it renders Proto-WC with a sensible number of proto-phonemes, around 50 or so, with a system of consonants and vowels that looks very much like an EC language. Second, it ties the morphology of WC into that of EC, specifically it gives a grammatical class system to both, a significant present difference that Chirikba really does not bridge (although he hints at the possibility in seeking the origin of an inexplicable dental stop (p. 16, and examples in [13]). EC has grammatical class systems – WC lacks this, but the ü-coloring of Chirikba hides the fact that such class markers were leveled and left "irregularities" in sound correspondences. In fact, apart from the theoretical schematic correspondences in (6) the removal of ü-coloring from the paradigm has little real impact, being invoked in (9) and (10) only.

Third, with case issues and coloring issues dispelled the only real typological chasm that must be crossed is that of verbal inflection. WC has a rich polypersonal verb while EC has only inflection of the subject, and for some languages such as Avar or Archi, not even person is inflected, only the grammatical class of the subject. Chirikba does address this problem in his conclusion section, pp. 21-23, where he summarizes the shift of WC from the EC model, with the latter assumed to be closer to the NC mother form, as one of "agglutinative to the analytical … and then from the analytical to the agglutinative (polysynthetic) type" (p. 22). French is held up as a good example of the last shift. For this explanation to work one must assume a string of pronouns and other elements as preverbal elements that eventually undergo cliticization to the verb, though it is possible to show that these verbal indices are not clitics in WC now, only benefactive forms being such (Colarusso, 2006, p. 30). In fact Tom Markey and I have argued (forthcoming) that the polypersonal verb of WC may have arisen from the clitic chain in sentential second position, the so-called Wackernagel position, which persisted as such among some of the Indo-European languages (distantly related to WC), but which became appended to the verb as phrasal head in WC.

I might even suggest here that some of the personal pronouns and their clitic verbal "index" variants bear a strong resemblance to some of the class markers of EC: WC /w-/ 'you' ~ EC /w-/ masculine, WC /y-/ 'third person' ~ EC /y-/ feminine, Abkhaz /-r-/ 'third.plural' ~ EC /r-/ plural. One might conceive of some shifting and reinterpretation of old class markers so as to function in a more traditional inflectional manner.

The strongest portion of Chirikba's article is the array of putative cognate sets that he has put forward. As is often the case the EC forms are listed by language without a Proto-EC form being postulated, except at the level of Proto-Avar-Andi, a closely related sub-group within EC. Nevertheless, many of these sets are intriguing, and a few are convincing. Some, such as the one for 'dog,' (11), are unconvincing, where the WC forms in Ubykh and Abkhaz are likely to be loans from PIE 'wolf', **wlk*^{w}*-os* ≥ Proto-WC */wla-/ ≥ Ub /w̲a/, Abx /la/, while Circassian /ḥe/ originally meant 'wolf' and is the only form that may be cognate with the EC forms. The comparisons for the numerals (13), the pronouns (16), and a variety of words in (17) fare better, and that of the suffixes, both taken to the proto-language level, (18), is excellent.

There is the occasional odd error. For example, the Circassian (noted as 'Ad' for 'Adyghey') for 'bear' in (14) is written as *məs*^{j}*a* when in fact the fricative is retroflexed, /məše/. The same palatalized notation is used throughout for the Ubykh apical alveolar series, so that instead of *s*^{j}, *z*^{j}, etc., one would be better to read /ṡ, ż/, etc. This are usually cognate with the Circassian laminal alveo-palatal series, /ś, ź/.

Then there is an oversight in (2), where the Abkhazian correlates of the Circassian lateral fricatives are presented as laminal palato-alveolars /š^{j}, ž^{j}/, (like <sh> in *shed*). It is not this simple, however. The Abkhazian cognate for Circassian /-pƛ̃-/ 'to look', is /-pš-/, with a retroflexed palate-alveolar (like <sh> in *shred*). This suggests that the development from lateral to laminal may have passed through a retroflexed stage and this suggests other possible matches with EC forms that would be overlooked if the laminal forms in Abkhazian were the only ones noted.

In a similar vein the Proto-WC inventory in (8) lacks crucial features: a voiceless unaspirated series, and an alveo-palatal series. This issue of inventory leads to the 81st consonant of Ubykh. I have argued (Colarusso 1992) that the Ubykh system had an 81st consonant, a labialized voiceless palatal fricative, which corresponds to the same in East Circassian, both /x̂°/, (West Circasian /f/). I confirmed this with my "Milk Sister," Meral Çare, a fluent Ubykh speaker, in April of 2014 when we last met in Istanbul. Throughout the present paper, say, for example, in (14) 'day', this form is written as Vogt (1963) did it, as <s^{w}>, which is a distinct phoneme, /s°/, found in the second person plural pronoun, (16), corresponding with Circ /ś°/ and (Bzyb) Abx /ṡ°/. This is a distinct correspondence set from that in (14) for 'day', Circ /x̂°/, Ub /x̂°/ , Abx /š/.

The elimination of the Ubykh labialized alveolar fricative in the set for 'day' weakens the plausibility of the Abkhazian form with its retroflexed palate-alveolar. In fact it is more plausible now to EC cognates for 'day' in forms with */xo/. The forms for 'you.plural' (16), then point to a possible alveo-palatal series for Proto-EC, a series which yielded either an alveolar (Lakk and Khinalug) or a palato-alveolar (Vai Nakh, Aghul, Tsakhur, and Archi), but otherwise is absent from modern EC languages. This would bring the phonemic systems of PWC and PEC closer in a significant way. The example of ‘day’ shows that the correct details can have far reaching consequences and are vital for the accurate reconstruction of Proto-(N)WC and even PNC.

To add just a few minor points: In (15) in the set for ‘book’ one may add the Ubykh /š°əq’á/ *id.*, a close match to the Abkhazian forms. It is probably a cognate rather than a loan because of the /-a/. The exact match for the Abkhazian final vowel belongs to a verb meaning ‘to honor’, with a separable prefix, /š°a-q’-´/ (Vogt, 1963, p.181). In (17) in the word for ‘road’ one may add Circassian /ɣ°ə/, *id.*, without the /mə-/ prefix.

The overall point here is that any work in this maelstrom of languages has to be done with the utmost care and attention to detail. Proto-forms at every level, especially in the complex domain of EC languages, have to be reconstructed and justified, and cognates sorted out from loans (no mean task in a set of languages in long contact with one another). The effort to establish cognates within WC itself is difficult in the extreme. Once an inventory of solid cognates has been established for both WC and EC then typological shifts can be hypothesized and evaluated with greater confidence.

Despite my criticisms Chirikba’s article is not only a useful synopsis of work on this problem, but an advance in this topic. With his effort Chirikba has convinced me, a skeptic for decades, that links across the North Caucasus are worthy of time and effort, and in fact may bear unexpected fruit. With Proto-Indo-European possibly a member of the Caucasian linguistic world (Colarusso 1997), the issue of Caucasian linguistic relationships takes on more than a mere local importance.

References

Bomhard, Allan R., 2015, “The Origins of Proto-Indo-European: the Caucasian Substrate Hypothesis. Talk delivered at the Leiden University Centre for Linguistics, 9 – 11 July, *The Precursors of Indo-European: the Indo-Hittite and Indo-Uralic Hypotheses*. (52 pp).

Colarusso, John, (1992) How Many Consonants does Ubykh Have? in *Caucasian Perspectives*, B. George Hewitt (ed.). Munich: LINCOM-Europa. Pp. 145-156.

__________ (1994) Proto-Northwest Caucasian, or How to Crack a Very Hard Nut, *The Journal of Indo-European Studies* 22.1-2: 1-35 [reprint of an article in Howard I. Aronson (ed.), *The Non-Slavic Languages of the USSR, Linguistic Studies*, University of Chicago: Chicago Linguistic Society, 1989, pp. 20-55].

__________ (1997) Phyletic Links between Proto-Indo-European and Proto-Northwest Caucasian, *The Journal of Indo-European Studies*, 25.1-2: 119-151. [reprint of an article in Howard I. Aronson (ed.), *The Non-Slavic Languages of the USSR, Linguistic Studies: New Series*, University of Chicago: Chicago Linguistic Society, 1992, pp. 19-54].

__________ (2003) More Pontic, Further Etymologies between Indo-European and Northwest Caucasian, in Dee Ann Holisky and Kevin Tuite (eds.), *Current Trends in Caucasian, East European and Inner Asian Linguistics, Papers in Honor of Howard Aronson*, Amsterdam: E. J. Brill. Pp. 41-60.

__________ (2006) *Ka[r]bardian East Circassian.* Munich: LINCOM-Europa.

Comrie, Bernard and Maria Polinsky, 1998, "The great Daghestanian case hoax," in Anna Siewierska and Jae Jung Song, (editors), *Case, Typology and Grammar*, Amsterdam: John Benjamins. Pp. 95 – 114.

Markey, Tom and John Colarusso, (submitted), "Exaptation as a Hallmark of Long Distance Comparison," *Journal of Indo-European Studies.*

Nichols , Johanna, 2011, *Ingush Grammar,* Berkeley: University of California Press.

Vogt, Hans, 1963, *Dictionnaire de la langue oubykh.* Oslo: Universitetsforlaget.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

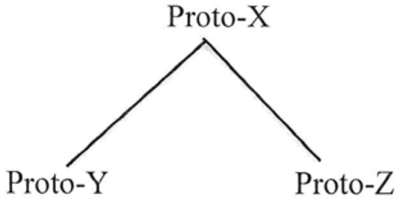
Comments on V.A. Chirikba's paper "From North to North West: How North-West Caucasian Evolved from North Caucasian"

Wolfgang Schulze
University of Munich

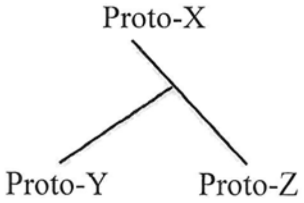
As has been summarized by the author of the paper under discussion, the question of a genetic relationship between West Caucasian and East Caucasian (or: Nakho-Daghestanian) has long been a prominent topic in Caucasian linguistics. Chirikba's paper tries to outline some of the pathways that led to the formation of West Caucasian, starting from the assumption that the world of present-day West Caucasian languages ultimately derives from a so-called North Caucasian dialect that would have also been the source for the development of East Caucasian. Most importantly, the author claims that the offsprings of East Caucasian reflect the original linguistic patterns of North Caucasian more closely, whereas the assumed North Caucasian dialect resulting in West Caucasian underwent dramatic changes that affected phonology and phonotactics as well as morphosyntax.

From a general point of view, such processes that massively restructure a given language system are sufficiently well documented. In this context, the author mentions the "stages which led the fully inflectional synthetic Latin, via Vulgar Latin, first to the analytical structure of early modern French and finally to the arguably polysynthetic-like structure of present-day colloquial (non-standard) French" (p. 28). Still, even though individual constructions of French (see *e.g.* Lambrecht 1981, Auger 1993) resemble those of West Caucasian, there are marked differences that question the relevance of French in this context. For other polysynthetic, predominantly prefixing languages such as the Na-Dené languages, however, that come closer to the West Caucasian type than French does, it is more difficult to describe the original typological architecture: In fact, we face the same problem as given for West Caucasian, namely that by family-internal reconstruction, we arrive at more or less the same basic patterns as in the modern languages. In order to search for the processes that had conditioned the emergence of predominantly prefixing polysynthesis, we have either to refer to internal reconstruction (by itself not considered by the author of the paper under discussion) or to languages said to be externally related to the languages at issue. For a language family such as Na-Dené, little is known, however, about possible external relatives (the consideration of Yeniseian as proposed *e.g.* by Vajda (2010) does not help in this respect). For West Caucasian, reference towards East Caucasian is quite common. In this sense, the East Caucasian languages would have preserved the original morphosyntactic and (in parts) phonotactic architecture, just as the "Baltic or Slavic languages, which preserve important features of the maternal IE system" (p. 23). Hence, whereas we can safely describe earlier stages of French that can serve to set up scenarios of language change leading to the present state of (spoken) French, one has to postulate from the very beginnings a relationship between East and West Caucasian in order to reconstruct a forerunner of West Caucasian that played the same role as Latin in the formation of Old French or as Middle French in the formation of Modern French. By itself, this procedure is not uncommon. For instance, individual branches of Indo-European form an important starting point for reconstructing the shape of the proto-languages of given subgroups within Indo-European. Still, this method calls for caution. Consider the following two cladograms:

(a)



(b)



Version (a) starts from a proto-language X that developed into two varieties (Y and Z) each of them marked for a relevant set of innovations. Version (b) starts from the same proto-language that, however, stayed intact for some time, except for one variety (Y) that was highly innovative. Now, if one starts from Proto-Y — itself reconstructed on the basis of the languages included in Y — two different perspectives can be taken: According to (a), Proto-Z cannot serve as a safe starting point because Proto-Z is characterized by a relevant set of innovations different from those in Proto-Y. In other words: Proto-Z may help to retrieve possible conservative features of Proto-X in case these are present in Proto-Y, too. Or, one applies the method of internal reconstruction to both Proto-Y and Proto-Z and compares the results, assuming that resulting patterns shared by both Proto-Y and Proto-Z are part of Proto-X. Version (b) would mean that in order to reconstruct Proto-Y, one sets Proto-Z (itself the conservative continuation of Proto-X) as the default for Proto-X and explains the features of Proto-Y as innovations. The author of the paper under discussion clearly takes the second option asking: "[H]ow WC could arrive in some important aspects to a strikingly different system from the one represented by EC, which latter, as some specialists maintain, continue the main parameters of the NC proto-language?" (p. 2). The footnote included in this quote refers to Nikolayev & Starostin (1994: 39) who claim that the Proto-WC phonological system "can be almost completely deduced" from Proto-EC. Hence, Chirikba's argumentation strongly depends from the quality of the *North Caucasian Etymological Dictionary* (Nikolayev & Starostin 1994) that serves as the main data base for the analyses presented in his article. Unfortunately, Chirikba does so in a rather uncritical way. He emphatically states that "[t]he overall weight of revealed lexical material common to both NC branches, and, importantly, systemic phonemic correspondences established on the basis of lexical comparisons, despite the fact that many details in the reconstruction of individual NC groups and the parental NC proto-language still have to be worked out, render the validity of the North Caucasian linguistic family beyond any reasonable doubt" (p. 6). He discredits possible objections by saying: "Typically, the critique comes from authors who are not themselves historical linguists, or who work exclusively on one branch of the NC family, being unfamiliar with the other, or even from those who work on the unrelated Kartvelian family" (p. 6). I do not want to comment on this not very scholarly formulation (see Nichols 1997, Schulze 1997 for reviews of the NCED), but want to add that such a negative statement should have at least been supplemented by evidence that would prove it. In fact, it is quite remarkable that the paper rarely considers alternative explanations or possible problems. Let us take three examples: on p. 18, the author mentions the following two sets of correspondences (note that I keep the format given in the original when quoting examples given by the author):

> (1) Chech *deši* 'gold', Dargi *dubsi*, dial. *dabs:e* '(red) copper', Tab *jišʷu-r* 'gold', cf. Kab *dəśe* 'gold'.

However, we have to exclude at least (in my writing) Tabasaran *yišʷ-ur* (sic!) that is a variant of *yif* 'copper' (marked by collective plural), also present in Aghul. To my knowledge there is not secure sound law in Tabasaran or Aghul that would relate Chechen or Dargi *d-* to *y-*. Given that fact that in many East Caucasian languages, terms for 'gold' are borrowings (cf. Schulze 2013) we should assume that Chechen *deši* is a borrowing, too, namely from Kabardian *dəśe* 'gold'.

> (2) Avar *mik:i*, Dargi *lah(w)a*, (Xaid) *lihwa*, (Urax) *lawha*, (Muir, Kajtag) *lahʷa*, (Kub) *na/exʷa*, Rut *lirxʷa/oj*, cf. Abx *a-laħʷa* 'rook, raven', Ub *daχʷa* 'dove'.

Gippert (2017) has convincingly argued that Rutul *lirxʷ-* is related to Aghul and Tabasaran *luf*, Lezgi *lif*, Kryts *ləf*, and Caucasian Albanian *luf-* 'dove'. Starting from Old Armenian *aławni* 'dove' he proposes a "pre-form like _*(ə)ləv-_ for Proto-Armenian as the input for a Proto-Lezgic borrowing in the form _*ləf_ " going back to Indo-European **h*$_2$*l̥h*$_3$*b*^{h}(-*ih*$_1$-*ni̯o*)-. It is rather likely that once _*(ə)ləv-_ (> _*lə(x)w_ ~ _*ləf_) had been introduced in the Lezgian languages it also spread into Dargi (the inclusion of Avar *mik:i* seems extremely improbable). In this sense, we have to deal with a later loan into the southern languages of East Caucasia, but not with reflexes of a Proto-NC term.

P. 16 refers to the well-known set of terms for 'horse':

(3) Abx _čə_, Circ _šə_, Ub _čʲə_ (PWC *_čʰʷʲə_), cf. Avar _ču_ (PAvar-Andi *_ʔičʷa_), Lak _čʷu_ vs. Andi _iča_, Axv, Tindi, Kar _ičʷa_, Cham _iša_, Botl, Godob _iča_, Bagv _ičʷ_, Dargi _urči_, Lezgi _šiw_, Archi _nolš_, Xin _pši_ ‘horse’.

The author refers to these correspondences in order to show that “[t]he individual EC languages too underwent considerable changes, which often parallel their evolution in WC” (p. 15). I do not fully understand which aspect Chirikba refers to when giving the example in (3). Most likely, he alludes to the augmented versions that are lacking in WC, Avar, and Lak. The regional distribution suggests that underlying *_əčwə_ did not result from a PEC form, but from a borrowing process. In this context, we cannot exclude the possibility that it has emerged from a reflex of Indo-European *_h_$_1$_ek̆u̯o-_ ‘horse’ related to Proto-Indo-Iranian *_áću̯as_ ‘horse’ [ˈaɕu̯as]. The same form would then have found its way into the West Caucasian languages (see Schulze 2014).[1]

In Footnote 22 on p. 9, the author states: “The PNC and PEC reconstructions are from NCED. Though not all reconstructed forms in NCED can be accepted without reservations, here I am more concerned with showing the general lines of the evolution of PWC, rather than with dwelling into the discussion of details of the reconstructed system.” The author’s reliance on the NCED is probably one of the weak points of the paper at issue. The examples given above illustrate that an in-depth discussion of the cognates suggested by Nikolayev & Starostin (1994) is a necessary prerogative before using them in the sense Chirikba does. On the one hand, this is a matter of quantity. The author gives some forty examples of possible cognates (some of which are mentioned twice or thrice). A closer inspection (eliminating probable loans) reduces the set of reliable cognates to perhaps twenty correspondences. Problematic sets are also those that relate WC lexical units to assumed correspondences present in only one or two subgroups of EC; cf. the following examples:

(4) Andi, Axv, Tindi, Botl, Godob _miq’:i_, Cham, Bagv _miq’:_, cf. Ub _məʁʲa_ ‘road, way’ (Abx _a-mɦʷa_ < *_məɦʷa_)

The root included in these lexemes has a much broader distribution, cf. Chechen _neq’_, Ingush and Bats _niq’_, Dargi _daˤq’_, Lezgi _req’_, Tabasaran _raqˤ:_, Aghul _req:_, Rutul _raqˤ_, Archi _deqˤ’_, Tsakhur _yaqˤ:-_, Udi _yaq’_ (the inclusion of Khinalug _k’ar_ as suggested by Nikolayev & Starostin (1994: 604) is extremely doubtful). The Lezgian terms clearly hint at Proto-Lezgian *_rəqˤ’_ that also underlies Dargi _daˤq’_. Hence we have at least three versions, namely *_niq’_ (Nakh), *_miq:’i_ (Avaro-Andian), and *_rəqˤ’_ (Lezgian). In order to arrive at a PEC stem, the NCED simply merges the two versions _miq:’i_ and _rəqˤ’_, adding an initial laryngeal (**Hrēmq:'ĭ*). A corresponding formula would read: If we have **ax* and **bx*, the underlying form is **abx* (or **bax*). This kind of reconstruction, however, ignores possible morphological units present in the given lexemes. In the case of the terms for 'road, path', we might think of two different types of derivational prefixes, namely **mə-* (Avaro-Andian) and **rə-* (Dargi and Lezgian). EC-internally, it is not evident which of these prefixes would have been given in PEC (if given at all). Both prefixes are well documented as petrified elements in EC. However, the distribution of both is not subgroup-specific. In addition, it is doubtful, whether **mə-* represents the original phonetic form of this prefix, given the many instances that show **bə-* instead of **mə-*. The correspondences given in (4) suggest that **mə-* had been part of the root already in PEC. However, we my likewise have to deal with an innovation in Avaro-Andian that would have replaced an older **rə-*. If this is true, the WC forms would have to be separated from the EC lexemes. By neglecting the forms that would hint at **rəqˤ'*, the author of the paper under discussion simplifies the matter to an extent that renders his arguments rather suggestive.

---

[1] S.A. Starostin proposed the reverse, PIE < PNC. See his article in this issue (p. 106) [Ed.].

(5) Chech, Ing *baza* 'fir-tree', Lak *wac'a* 'forest', Ad *mazə* 'forest', Ub *məʒʲə* 'prickle, thorn'.

Again, the relevance of this set of correspondences is not fully clear. The comparison is grounded on data from just Nakh and Lak (but also note Dargi *wac'a*). Nikolayev & Starostin (1994: 539) add Andi *himc:'ir* 'fir-tree', not attested in actual sources (Andi has *c:i'rłu*, obviously grounded in a root **c'ir*). Given the fact that fir-trees are quite uncommon in the Northern Caucasus, we can expect that we have to deal with borrowings in most cases (see Comrie & Khalilov 2010: 406 for the corresponding entries). This also questions the semantic aspect: Given that firs are far from being prototypical representatives of trees in the woods of the Northern Caucasus, it is difficult to understand why the concept 'fir' would be metonymically transformed to the concept of 'wood/forest' in Lak and Adyghe. The same holds for the other direction: In case we have to start from the concept 'wood/forest' it would be rather unlikely that this concept would have been narrowed down to 'fir' in Chechen.

(6) Chech *c'eca-joqqurg* 'weasel' (*j-oqqa* 'big'), Xin *c'ɨza-šχer* 'hedgehog', cf. Ad *cəza*, Kab *ʒəza* 'marten', Ub *cʲaca* 'beaver'.

This set of correspondences taken — with respect to EC — from just Chechen and Khinalug is characterized by two false friends: Khinalug actually reads *c'ɨzaš-χer*: 'something that shivers' and hence has nothing to do with the WC terms. The same holds for Chechen *c'e-ca-yoqqurg* that actually means 'its name is not mentioned' (a tabooing formation, cf. Shakhbieva 1998).[2]

For sake of brevity, I do not discuss all the sets of correspondences referred to by the author. Still, it seems evident that the NCED calls for a very careful and extensive revision of the data given in the NCED (including the elimination of loans and the revision of the reconstructed forms). Likewise, we have to describe in much more detail the word formation processes in EC in order to accurately reconstruct the word formation patterns in PEC (and its subgroups) before trying to relate the corresponding data to WC. Even without this, the author should have considered alternative proposals related to the reconstruction of certain terms in order to evaluate the WC/EC correspondences proposed by the NCED. Let me take one example:

> (7) Chech, Ing, Bats *so*, Rut *zɨ*, Tsax, Udi *zu*, Xin *zɨ*, cf. Abx *sa*, Circ *se*, Ub *sə-* 'I'; Lak *wi*, Rut, Xin *wɨ*, Tsax *wu*, cf. Abx *wa*, Circ *we*, Ub *wə-* 'thou'; Chech, Ing, Bats *šu*, Lak *zu*, Aghul *ču-n*, Tsax *šu*, Archi *žʷe-n*, Xin *zu-r*, cf. PWC **sʷa* 'you (pl.)';

Again, the sets of correspondences are rather selective. At a first glance, the correspondences given *e.g.* the 2.SG are rather convincing. A closer look at the EC data, however, reveals that the underlying form for PEC not necessarily reflect **uō* as suggested by the NCED (p. 1014-1015). (8) lists the reconstruction of the personal pronouns for PEC and the individual subgroups as elaborated by Schulze (2011: 59-126):

(8)

	PEC	NAKH	AVARO-ANDIAN-TSEZ	LAK/DARGI	LEZGIAN
1SG	*zʷə-	*su-o	*dV$_{pal}$	*du	*zʷə-
2SG	*ğʷə-	*ħu-o	*dV$_{lab}$/*mV	*ħʷə	*ğʷə-
1.PL (i)	*ł:i- (?)	[*way]	*iλ:i	[*-ẋ :a]	*ẋ:ə-
1PL (e)	*źʲə-	*txu-o	[*iš:i]	[*žu]	*žʲə-
2PL	*źʷə-	*šu	*biš:di	*-š:a/zu	*žʷə-

Note that the NCED erroneously includes the Nakh 1.PL inclusive (**way*) that, however, is clearly borrowed from an Indo-European language into Nakh. According to the data in (8), the 2.SG has to be reconstructed as *ğʷə-*, not as **uō* (see Schulze 2011 for details). Referring to the WC correspondences for *ğʷ-* given in the NCED, we would expect forms starting with ʕ^{w}- (for Abkhaz etc.) and *ğ*^{w}- (for Adyghe etc.) instead of *w*-. Likewise, **ź*^{w}- (2.PL) should yield something like *ź*- or *ž*^{w}- in WC, but not reflexes of **s*^{w}-.

---

[2] Note that this comparison was later removed by the author (Chirikba) [Ed.].

Leaving aside other problematic correspondences listed by the author, one might state that the lexical evidence for secure WC-EC etymologies is rather meager. Naturally, this impression is also due to the fact that Chirikba does not refer to these sets of correspondences in order to demonstrate systematically all relevant sound correspondences between PEC and PWC. Actually, we cannot expect him to do so, since the author emphatically subscribes to the idea of 'North Caucasian'. Still, the paper would perhaps have been less suggestive in case it had considered those arguments that question this idea in more detail. At least, one would have expected that the author had checked the reliability of the correspondences he mentions in detail.

The same holds for his observations concerning morphology. The list given on pp. 18-19 is extremely problematic with respect to the EC data. Consider the prohibitive marker **ma.* Although the details are not fully understood yet, it is evident that we have to deal with a kind of *wanderwort* that is present far beyond the Northern Caucasus, cf. for Indo-European Sanskrit, Avestan, and Old Persian *mā*, Greek μή, Armenian *mi*, Albanian *mo-s* etc., and Turkic *-mI-* as well as Semitic **mā*. Other units mentioned by Chirikba for PEC are far from being secure reconstructions. For instance, the assumption that an actually rather rare nominal stem augment *-m-* once had formed the basis of the ergative goes against much of what we know about the history of ergative morphemes in the EC languages. Likewise, the two topical particles **-gi*/**-gu* and **-ra* have a very restricted distribution in EC (Avaro-Andian resp. Lak and Dargi). The idea to relate the PWC locative suffix **-na/ə* to the assumed PEC genitive suffix **-n* (itself far from being ascertained) would only be plausible in case we can show that the PEC genitive originally functioned as a locative (ablative > partitive). As far as I know, no such evidence is, however, given. The assumption that PWC **b*-, by itself a "suffixal marker of numerals for non-human referents" and the "prefix of 2nd person (fem.), personal pronoun 'thou' (fem.) (PAbx)", has its parallel in the PEC Class III marker **b*- seems highly problematic from a functional point of view. The author should have described in more detail possible communicative scenarios that would have motivated the use of a third person Class III anaphor when addressing a female speech act partner. In principle, this is not improbable in terms of a social deixis. It would also allow relating the PEC Class I prefix **w-* to the PWC marker for the 2SG (males), cf. Abhaz *wa*, Adyghe *we*, Ubykh *wə*- 'thou'. A typological parallel would be the 18th/19th century use of German *er* 'he' and *sie* 'she' as second person pronouns. Nevertheless, this idea presupposes that **b*- once had functioned as an independent anaphor in early PEC, which should then also hold for the other class markers (**w-* I, **r-/y-* II, **d-* IV in the singular). Still, there are no traces of such elements in PEC outside the system of class markers. Other morphemes such as the comitative affix **-ci* or the instrumental **-se* have such a restricted distribution in the EC languages that their reconstruction for PEC remains more than doubtful.

In fact, I think that any effort to relate grammatical units of WC to those given in the EC languages is premature. Despite the work of Alekseev (1985, 1988) we cannot say that we know much about the grammar of PEC. This is mainly due to the fact that we even lack full-fledged historical comparative grammars of the individual subgroups that would meet the standards of, *e.g.*, Indo-European comparative linguistics. Without such work at hand, comparative approaches that aim at relating EC to other languages often refer to grammatical units in the individual present-day languages. However, given the fact that EC includes twenty-nine or thirty languages all of them marked for a high degree of morphology the chance is very high of finding this or that element in one or the other language that would match a unit under consideration. One of my teachers once told me: The EC languages are like a bazaar: Somewhere in this bazaar, you will always find what you need.

Chirikba ends his paper by saying that the relationship of WC and EC "was definitively demonstrated by modern historical linguists, Sergei Starostin, Sergei Nikolayev and Auez Abdokov" (p. 23). Personally, I dare to say that this apologetic formulation comes much too early. I do not advocate for the contrary, namely that WC and EC would not be related at all. It is common ground in historical comparative linguistics that we *cannot* prove that languages are *not* related. However, I strongly argue in favor of a much more cautious way of approaching the question of whether a WC/EC relationship is given at all. This has to include not only much more work on the lexical inventories of the individual EC subgroups by eliminating all possible older and younger loan layers and *wanderworte* (both from the EC internal and EC external perspective), by modeling plausible semantic shifts, and by embedding the reconstructed items into what we know about the cultural world of PEC. Likewise, we have to elaborate in detail the grammar of PEC, which is by and large opaque, not so much with respect to its structural and functional layout, but with respect to its formal inventory. Only then would we have a safer basis in order to tackle the question of a WC/EC relationship. Such a hypothesis should also consider assumptions about the *urheimat* of both PWC and PEC. Unfortunately, Chirikba is rather silent about this point. All he says is that "EC was developing in a habitat geographically more isolated from external influences" (p. 21), whereas he assumes a process of "creolization of the early PWC dialect, which could happen as a result of migration, either of the speakers of the early PWC dialect to a new habitat which had an older population, with which they then mixed, or, vice versa, a migration of speakers of another language who moved to the territory occupied by the bearers of early PWC" (p. 21). Maybe Chirikba should have made clearer what he means by "creolization". Actually, creolization presupposes a Pidgin state that, however, would have conditioned a rather isolating type of language, developing in a more analytic type during creolization (in fact creoles rarely reflect the morphology of the corresponding superstrate). In addition, we should expect that a stock of lexical units (usually encompassing typical domains) would have been taken from the substrate language(s).

To my knowledge, no detailed studies exist concerning such a hypothetical lexical layer in WC. Another point is the following: Chirikba argues that "after it [PWC, W.S.] eventually evolved, having acquired nearly all the features of its modern make-up, late PWC (= CWC) remained stable over a considerable period of time. This might indicate that late CWC was not exposed to significant external linguistic influences or contacts, and the only factor in its slowed evolution was contact between its separated dialects" (p. 21). This can only be understood in case the early PWC speakers, having migrated into their new Northwest Caucasian homeland, linguistically (and culturally?) merged with the local population to an extent that practically no other relevant speech communities would have existed anymore. Given the location of the new homeland at the Eastern rim of the Black Sea, such a scenario, however, is not very convincing (recall the famous report by Plinius the Elder in his *Historia naturalis*, according to which the village of Dioscurias in Colchis once hosted three hundred nations with different languages" (VI, 15)). Accordingly, it seems appropriate to develop scenarios different from that proposed by Chirikba in order to account for the fact that the WC languages are rather homogenous from a structural point of view. On the other hand, the question of where the original homeland of PEC speakers had been is far from being ascertained. Candidates are the lowlands of northern Daghestan or the regions of central Azerbaijan. In my eyes, the second option seems to be more appropriate (cf. Schulze 1988 for details), which would perhaps relate the PEC world to the Kuro-Araxes cultural traditions. If this assumption were correct, it would be difficult to describe the migration route of Pre-PWC speakers into their present-day territory. Assuming two different homelands, however, would argue against a linguistic relationship in the sense of Chirikba's thesis. Rather, we would have to think of a diffusion of certain linguistic features that perhaps started at the times when early EC speakers commenced to settle in the northern regions of the Caucasus.

References

Alekseev, Mikhail E. 1985. *Voprosy sravnitel'no-istoričeskoj grammatiki lezginskix jazykov. Morfologija. Sintaksis.* Moskva: Nauka.

Alekseev, Mikhail E. 1988. *Sravnitel'no-istoričeskaja morfologija avaro-andijskix jazykov.* Moskva: Nauka.

Auger, Julie 1993. *More evidence for verbal agreement-marking in colloquial French.* In: W. J. Ashby, M. Mithun et al. (eds.), Santa Barbara Romance Papers: Selections from the XXI Linguistic Symposium on Romance Languages, 177-198. Amsterdam, Philadelphia: John Benjamins.

Comrie, Bernard & Mazhid Khalilov 2010. *Slovar' jazykov i dialektov narodov severnogo Kavkaza.* Leipzig and Makhachkala: MPI for Evolutionary Anthropology.

Gippert, Jost 2917. Armeno-Albanica II: Exchanging doves. In: Bjarne Simmelkjær, Sandgaard Hansen, Adam Hyllested, Anders Richardt Jørgensen, Guus Kroonen, Jenny Helena Larsson, Benedicte Nielsen Whitehead, Thomas Olander, Tobias Mosbæk Søborg (eds.), *Usque ad radices. Indo-European studies in honour of Birgit Anette Olsen*, 179-192. Copenhagen: Museum Tusculanum Press.

Lambrecht, Knut 1981. *Topic, Antitopic and Verb Agreement in Non-Standard French.* Amsterdam, Philadelphia: John Benjamins.

Nichols, Johanna 1997. Nikolayev and Starostin's North Caucasian etymological dictionary and the methodology of long-range comparison: An assessment. The Tenth International Non-Slavic Conference. Chicago.

Nikolayev, S. L. & S.A. Starostin 1994. *A North Caucasian Etymological Dictionary.* Moscow: Asterisk.

Schulze, Wolfgang 1997. Review of Nikolayev and Starostin 1994. *Diachronica* 14: 149-161.

Schulze, Wolfgang 1998. *Person, Klasse, Kongruenz: Fragmente einer Kategorialtypologie des einfachen Satzes in den ostkaukasischen Sprachen.* Band 1 (in zwei Teilen): Die Grundlagen. München/Newcastle: Lincom Europa.

Schulze, Wolfgang 2011. *Personalität in den ostkaukasischen Sprachen.* Banská Bystrica: Univerzita Mateja Bela v Banskej Bystrici, Fakulta humanitných vied.

Schulze, Wolfgang 2013. Historische und areale Aspekte der Bodenschatz-Terminologie in den ostkaukasischen Sprachen. *Iran and the Caucasus* 17: 295-320.

Schulze, Wolfgang 2014. Generic terms for domestic animals in East Caucasian. *Iran and the Caucasus* 18,3: 213-274.

Shakhbieva, M. Kh. 1998. Problemy nakhskoy ėtimologii. *Vestnik Moskovskogo universiteta*, Serija 9, Filologija 4: 91-100.

Vajda, Edward 2010. Yeniseian, Na-Dene, and Historical Linguistics. *Anthropological Papers of the University of Alaska*, Volume 5, New Series: 100-118.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

A Response to Suggestions and Comments By the Reviewers of my Article

Viacheslav A. Chirikba

I would like to present here my reactions to the suggestions and critical comments concerning my article by experts working in the field of Caucasian and comparative linguistics.

I start with comments by Dr. John Colarusso, a well-known specialist in Caucasian, especially West Caucasian, linguistics. There are obvious points on which our views differ. For example, I do not see any possibility of genetically connecting West Caucasian (WC), taken separately from East Caucasian (EC), with Indo-European (IE) as branches of a bigger family or phylum. At the same time I do agree with Dr. Colarusso that "one of the plausible neighbors to WC at an early period was Proto-Indo-European". Sometimes we have different ideas on particular reconstructions and etymologies. *E.g.,* I do not see in PWC **Hˤʷa* 'dog' a loan from IE **wlkw-os* 'wolf', since the PWC form has good matches in EC words for 'dog'; see the comparisons under (11). The Adyghe word for 'bear' in (14) is */məsʲa/* (or */məṡa/*, to use a more traditional transcription), not **/məša/*, so there is no error on my part. Agreeing with N. Trubetzkoy, I treat apical alveolar sibilants in all WC languages, with the exception of Kabardian, as a palatalized series. In (2) I only quote correspondences contained in Trubetzkoy's paper, and in my 1996 book I do discuss the correspondence Abx *pš-* and Circ *pλ-* 'to see', so there is no oversight. A cognate of Ub *wa* 'big, long' is Proto-Abx **awə* 'long, tall', and from Circassian I adduce different material than Dr. Colarusso. Ubykh *šʷaq'a* 'book' is indeed a close match to PAbx **šʷaq'a* (or **šʷaʔa*) 'id.', but I am not sure that we are not dealing here with a loan in Ubykh.

Colarusso remarks that WC does not possess a grammatical class systems, but Abkhaz does have one, linkable, though not straightforwardly, to that of EC languages; see on this A. Abdokov[1] and more recently R. Matasović.[2] I do agree with Dr. Colarusso that "some of the personal pronouns and their clitic verbal "index" variants bear a strong resemblance to some of the class markers of EC". The WC cognates for 'day' are well established (PWC **ma/əλʷʲa* > Abx *a-mš*, Ub *məsʷa*, Kab *maxʷe* 'day'), and the EC cognates are also quite plausible (Chechen, Ingush *malχ* 'sun', Andi, Axvax, Tindi, Godoberi *miλi* 'sun', Chamala *miλ* 'sun, day'), so there is no need to revise the comparison.

---

[1] Aues Abdokov, *Vvedenie v sravnitel'no-istoricheskuju morfologiju abxazsko-adygskix i naxsko-dagestanskix jazykov.* Nal'chik, 1981, p. 54-65.

[2] Ranko Matasović, "The origin of gender in Northwest Caucasian" (draft). Cf. https://www.academia.edu/ 34519267/The_origin_of_gender_in_Northwest_Caucasian.

It is true that while reconstructing PWC we arrive at a very large number of consonants, but the problem dissipates when we take in account that many of these "colored" consonants were in fact combinations "consonant plus vowel" (CV), rather than single phonemes, and that their reconstruction as consonants (*C^V) is a mere technical convention, easily re-readable as */C+V/*, which would produce a more "normal" PWC consonant system (see in (8) "A tentative inventory of early PWC consonant system," containing as few as 40 consonants), and, *en revanche*, a more sophisticated vocalic system.

Dr. Colarusso's comments and suggestions are valuable and most welcome, and I share his opinion that utmost care to details is a must in such a thorny terrain as North Caucasian comparative linguistics. I feel gratified with Colarusso's remark that "With his effort Chirikba has convinced me, a skeptic for decades, that links across the North Caucasus are worthy of time and effort, and in fact may bear unexpected fruit."

The German colleague Dr. Wolfgang Schulze, a specialist in EC languages, is more difficult to convince. I agree with him that "in-depth discussion of the cognates suggested by Nikolayev & Starostin (1994) is a necessary prerogative before using them", and that "it seems evident that the NCED calls for a very careful and extensive revision of the data given in the NCED (including the elimination of loans and the revision of the reconstructed forms)".

The problem, however is, that the critics of S. Nikolayev's and S. Starostin's "North Caucasian Etymological Dictionary" (NCED) concentrate mainly on demonstrating its weak points, for example, on borrowings mistaken for true cognates, or wrong forms or etymologies, and on them they base their final judgement about the validity of the reconstructed Proto-North Caucasian (PNC) system, but they are unwilling to assess and discuss its stronger component, which, in my view, renders the reconstructed system as viable, while this selective approach leaves the whole picture rather imbalanced.

As to details, Dr. Schulze cites J. Gippert's attempt to see in Lezgic words for 'dove' (see comparisons in 17) a borrowing from Old Armenian *aławni* 'dove', which then somehow spread from Lezgic to Dargi. The question is whether the Armenian form *aławni* could have become a source for Albanian[3] (Old Udi) *luf* and for other Daghestanian forms, with an unexplained loss of both the initial vowel and the final syllable (*-ni*). Besides, the Armenian word itself is now regarded as a borrowing from a

---

3. As Dr. Chirikba indicates, this "Albanian" is the so-called "Caucasian Albanian," the ancient kingdom of Albania in the Caucasus, where an old form of Udi was spoken. There is no historical or linguistic connection with the Albanian ethnicity in Balkan Europe. [Ed.]

Mediterranean substrate language.[4] In view of the above-said, I rather doubt that the Armenian and Daghestanian forms are related.

The words for gold and copper, I agree, may have indeed undergone borrowing in one direction or another. Moreover, the borrowing of EC and WC words for 'horse' from an IE form, which has been suggested by a number of authors, especially in view of Proto-Indo-Iranian **áću̯as* 'horse', is indeed a possibility.[5]

But this concerns so far cultural terms, which are easily borrowable. What about the more "basic" vocabulary? Let's take, for example, the word for 'way, road'. The reviewer deems the suggested EC cognate to WC **məɦʷʲa* 'road, way', namely, the Avaro-Andian form *miq':i*, to be secondary as compared to the phonetic variants in Lezgic languages with rhotic anlaut. He writes: "we may likewise have to deal with an innovation in Avaro-Andian that would have replaced an older **rə-*. If this is true, the WC forms would have to be separated from the EC lexemes." However, it is not explained why the variant with the rhotic anlaut should be regarded as more original as compared to the one with the initial bilabial. After all, we have nasal anlaut in WC (**məɦʷʲa*), Nakh (*neq'/niq'*) and Avaro-Andian (**miq':i*), as contrasted with rhotic, dental or palatal ones in Lezgic (Lezgi *req*, Archi *deq'ˁ*, Udi *jaq:*), which could indicate that it is the latter one that might have innovated. I agree with Dr. Schulze, however, that all these variants should be properly discussed.

I do not think that many specialists would agree that Nakh **way* 'we' (incl.) should be regarded as borrowed from an Indo-European language, as suggested by Dr. Schulze.

All the elaborate argumentation against practically any proposed EC-WC cognate (cf. the discussion of the terms for fir-tree/wood, personal pronouns, morphological elements and particles, etc.), even the most straightforward ones, leaves an impression of a solid view taken by the reviewer that EC and WC are not genetically related, and that any resemblance between their forms should be explained by anything else (chance similarity, language contact, wrong etymologies, etc.) but by shared genetic inheritance. This is a clear position, and here we just have to agree to disagree. I also cannot agree with the notion that the historical-comparative research in the field of EC-WC relationship is premature – it is certainly not! On the other hand, I am grateful to Dr. Schulze for demonstrating the possibility of alternative solutions for concrete etymologies, and for pointing out some mistaken cognates or forms.

I thank Dr. Václav Blažek for his positive assessment of my work. As to his remark on Georgy Klimov, I must say that all relevant works by this great Soviet/Russian Caucasian scholar are referred to in my doctoral thesis, whose Russian language version, updated and revised, I am now preparing for publication.

---

[4] See H. Martirosyan, *Etymological Dictionary of the Armenian Inherited Lexicon*. Brill, 2010, p. 31.

[5] S.A. Starostin proposed the reverse, PIE < PNC. See his article in this issue (p. 106) [Ed.].

I am indebted to all of the esteemed reviewers for their valuable comments and critiques, which are essential to attaining better results when dealing with such an extremely complex issue as North Caucasian reconstruction. There is certainly a regrettable lack of expert debate on many aspects of the (pre-)history of Caucasian languages, and such a rare occasion as this discussion presents a welcome opportunity.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

Prehistoric Language Contact on the Steppes: The Case of Indo-European and Northwest Caucasian

Allan R. Bomhard
Florence, SC USA

ABSTRACT: There have been numerous attempts to find relatives of Proto-Indo-European, not the least of which is the Indo-Uralic Hypothesis. According to this hypothesis, Proto-Indo-European and Proto-Uralic are alleged to descend from a common ancestor. However, attempts to prove this hypothesis have run into numerous difficulties. One difficulty concerns the inability to reconstruct the ancestral morphological system in detail, and another concerns the rather small shared vocabulary. This latter problem is further complicated by the fact that many scholars think in terms of borrowing rather than inheritance. Moreover, the lack of agreement in vocabulary affects the ability to establish viable sound correspondences and rules of combinability. This paper will attempt to show that these and other difficulties are caused, at least in large part, by the question of the origins of the Indo-European parent language. Evidence will be presented to demonstrate that Proto-Indo-European is the result of the imposition of a Eurasiatic language — to use Greenberg's term — on a population speaking one or more primordial Northwest Caucasian languages.

What exactly is Proto-Indo-European, and where did it come from? Which languages did it come into contact with, and can evidence of such contact be ascertained? Moreover, what was the impact of that contact on the phonology, morphology, and lexicon of Proto-Indo-European? These are important questions, not only for understanding the prehistory of Proto-Indo-European itself, but also for the bearing that the answers to these questions have on the ability to determine the language or languages with which Proto-Indo-European is most likely related.

Let us begin with some basic premises:

1. The most likely homeland of speakers of the unified Indo-European parent language was located to the north of and between the Black and Caspian Seas (see figure 1). This scenario is supported not only by linguistic evidence, but also by a growing body of archeological and genetic evidence. The Indo-Europeans have been identified with several cultural complexes existing in that area between 4,500—3,500 BCE. The literature supporting such a homeland is both extensive and persuasive (many of these works are listed in the references at the end of this paper). Consequently, other scenarios regarding the possible Indo-European homeland, such as Anatolia, have now been mostly abandoned.
2. Proto-Indo-European had neighbors: Uralic languages were spoken to the north, Caucasian languages were spoken to the south, and Altaic and several so-called "Paleosiberian" languages were spoken to the east. Further south, in and around the Fertile Crescent, Semitic languages were spoken. Though it is not known what languages lay to the west, it is known that Indo-Europeans were not the first inhabitants of Europe, and Basque survives to this day as the sole remaining language from before the Indo-Europeanization of Europe.
3. By about 3,500 BCE, Proto-Indo-European had already split up into several distinct dialects, which, in turn, had begun to spread westward, southward, and eastward, away from the original core (see figure 2).
4. The first dialect to separate from the main speech community was Anatolian. No doubt, the next to leave was Tocharian.
5. Proto-Indo-European was a highly inflected language, and its grammatical structure has been reconstructed in great detail — except for particles, conjunctions, and certain quasi-adverbial forms, all words were inflected. The basic structure of inflected words was as follows: root + suffix (one or more) + inflectional ending. A notable morphophonemic characteristic was the extensive use of a system of vocalic alternations ("Ablaut" in German) as a means to mark morphological distinctions.

Verbs were strongly differentiated from nouns. For nouns and adjectives, three genders, three numbers, and as many as eight cases have been reconstructed (mainly on the basis of what is found in Classical Sanskrit), though it is doubtful that all of these features were ancient — it is indeed possible to discern several distinct chronological stages of development (cf. Bomhard 2015.1:105—112 and 1:580—583; Lehmann 2002). The traditional reconstruction of the Proto-Indo-European verbal system sets up two voices, four moods, and as many as six tenses. Syntactically, Proto-Indo-European seems to have had many of the characteristics of an SOV language, though there must, no doubt, have been a great deal of flexibility in basic word order patterning. Finally, Proto-Indo-European clearly had a nominative-accusative type structure, at least in its later stages of development.

Figure 1: According to Villar (1991:15), the following map shows the location of Indo-European-speaking people at about 5,000—4,500 BCE, while the hatched area above the Caspian Sea indicates the earliest probable location of the Indo-Europeans.

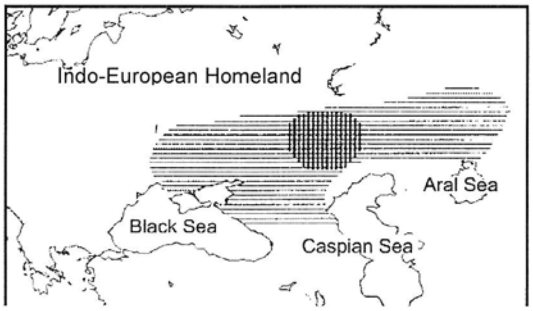
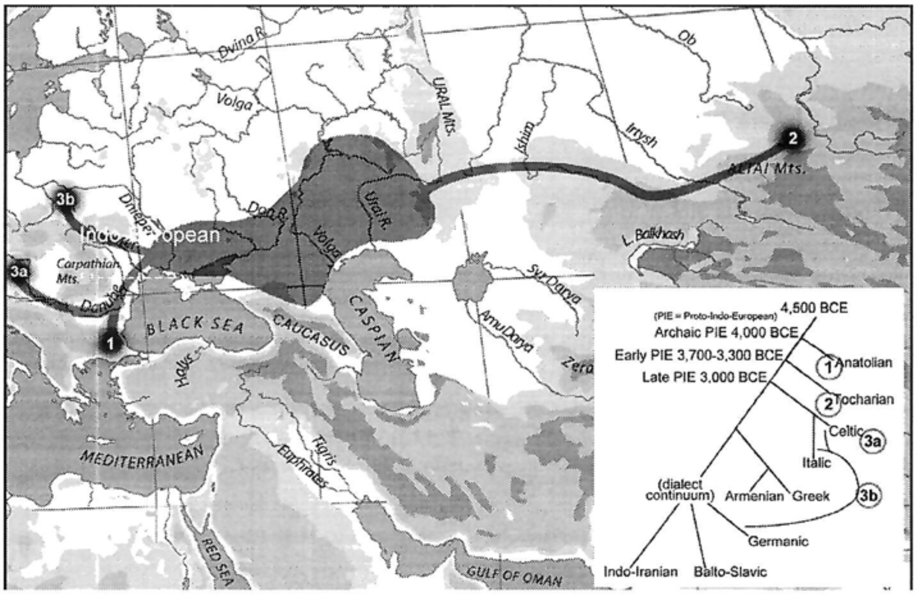

Indo-European Homeland
Aral Sea
Black Sea
Caspian Sea

Figure 2: The early dispersal of the Indo-European languages (cf. Anthony 2013:7):


Dvina R.
Volga
URAL Mts.
Ob
Ishim
Irtysh
2
ALTAI Mts.
3b
Dnieper
Don R.
Ural R.
Volga
Indo-European
3a
Carpathian Mts.
Danube
L. Balkhash
Syr Darya
Amu Darya
Zera
BLACK SEA
CAUCASUS
CASPIAN
1
Halys
MEDITERRANEAN
Tigris
Euphrates
RED SEA
GULF OF OMAN
(PIE = Proto-Indo-European)
4,500 BCE
Archaic PIE 4,000 BCE
Early PIE 3,700-3,300 BCE
Late PIE 3,000 BCE
1 Anatolian
2 Tocharian
Celtic
3a
Italic
(dialect continuum)
Armenian
Greek
3b
Germanic
Indo-Iranian
Balto-Slavic

Note: According to Anthony, the first three migrations out of the Indo-European homeland were:

1. Anatolian;
2. Tocharian;
3. (a) Celtic;
   (b) Germanic.

But, there is more. It has long been recognized that the form of Proto-Indo-European reconstructed in the standard handbooks is not the earliest form that can be recovered. That form of Proto-Indo-European contains the remnants of successive earlier stages of development. Recent scholarship, particularly over the past three decades or so, has turned its attention more and more to investigating the prehistoric development of Proto-Indo-European. As a result, several prominent linguists have proposed that Proto-Indo-European may have been an active-type language at an earlier period of development, while others have thought more in terms of an ergative-type structure. Moreover, it is becoming increasingly evident that the complicated morphological system reconstructed by the Neogrammarians for Proto-Indo-European, mainly on the basis of Sanskrit and Greek, was a later development. The relative simplicity of the Hittite morphological system is now seen to be an archaism.

The phonological system has also attracted considerable attention, especially the system of stops. Here, mention may be made of the so-called "Glottalic Theory" (cf. Salmons 1993; Bomhard 2016), according to which the traditional plain voiced stops (**b*, **d*, **g*, **g*^{w}) are reinterpreted as glottalics (**p’*, **t’*, **k’*, **k’*^{w}), with a possible gap at the bilabial point of articulation, or, if not an outright gap, at least a very low frequency of occurrence (see figures 3 and 4). One thing is certain, Proto-Indo-European had a history, and, little by little, that history is being uncovered.

Figure 3: The glottalic reconstruction of the Proto-Indo-European consonant system according to Gamkrelidze—Ivanov (1995.1:5—70):

Traditional					Gamkrelidze—Ivanov		
I	II	III			I	II	III
(b) b^{h}	p	=		(p’)	bh/b	ph/p	
d	d^{h}	t	=		t’	dh/d	th/t
g	g^{h}	k	=		k’	gh/g	kh/k
g^{w}	g^{wh}	k^{w}	=		k’$^{\text{u̯}}$	g$^{\text{u̯}}$h/g$^{\text{u̯}}$	k$^{\text{u̯}}$h/k$^{\text{u̯}}$

Notes:

1. Gamkrelidze—Ivanov reinterpret the traditional plain voiced stops (series I) as glottalics (ejectives);
2. They make no changes to the traditional voiced aspirates (series II);
3. They reinterpret the traditional plain voiceless stops (series III) as voiceless aspirates;
4. They point out, however, that the feature of aspiration is phonemically irrelevant in a system of this type, the choice between the aspirated and unaspirated variants being mechanically determined by the paradigmatic alternations of root morphemes.

Figure 4: Reconstruction of the Proto-Indo-European phonological system during its latest period of development according to Bomhard (2015.1:59):

Obstruents:	I	p^{h}	t^{h}	k^{yh}	k^{h}	k^{wh}	
	II	b^{h}	d^{h}	g^{yh}	g^{h}	g^{wh}	
	III	(p’)	t’	k^{y}’	k’	k’^{w}	
			s				
Laryngeals:		ʔ	h	ħ̯h			
				ʕ̯ɦ			
		ʔ^{w}		ħ̯h^{w}			
Resonants:		m/m̥	n/n̥	l/l̥	r/r̥	w/u	y/i
Vowels:	e	o	a	(i)	(u)	ə	
		ē	ō	ā	ī	ū	

Notes:

1. Series I is voiceless aspirated; series II is voiced aspirated; and series III is glottalized (ejectives).

2. Voiced aspirates (series II) may have already developed, or at least started to develop, at this stage, but this is uncertain. They are really only needed in order to account for developments in Armenian, Indo-Iranian, Greek, and Italic.
3. The glottalics (series III) became deglottalized just prior to the emergence of the non-Anatolian Indo-European daughter languages. The resulting system was as follows:

Obstruents:	I	p^h	t^h	k^{yh}	k^h	k^{wh}	
		II	b^h	d^h	g^{yh}	g^h	g^{wh}
		III	(p)	t	k^y	k	k^w

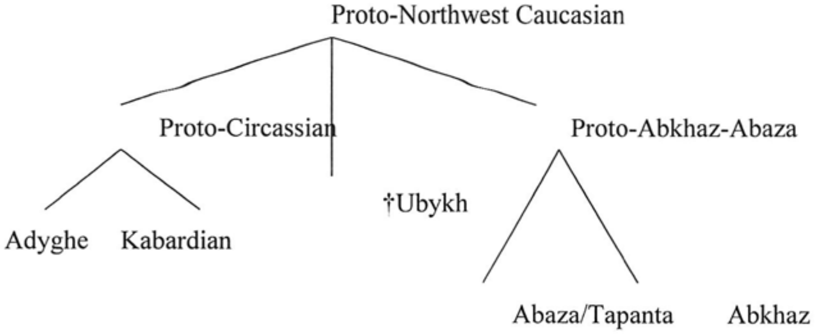
4. The palatalovelars may already have started to become phonemic at this stage, at least in the ancestors of those daughter languages (the "*satəm*" languages) in which the labiovelars were delabialized. They did not become phonemic in the ancestors of the so-called "*centum*" daughter languages.

As we delve further into the prehistory of Proto-Indo-European, we begin to see that, in its earlier stages of development, Proto-Indo-European is characterized by a mix of phonological, morphological, and lexical features which link it, ever so tenuously, with other languages of northern Eurasia — to cite one example, similarities in pronoun stems are particularly striking. Though these links hint at some sort of distant linguistic relationship, proof has remained elusive. There is something about Proto-Indo-European that sets it apart. In many respects, it is typologically divergent from the other languages of northern Eurasia. For example, it is the only reconstructed language of the region with a series of voiced aspirates. Its root structure patterning is different, as are its nominal case system and complicated verbal structure. Its system of vowel gradation is more akin to what is found in Kartvelian. Its vocabulary is also distinctive. If Proto-Indo-European is, in fact, distantly related to other languages of northern Eurasia, then the differences which set it apart from them require an explanation.

As was mentioned at the beginning of this paper, the homeland of Proto-Indo-European was situated north of and between the Black and Caspian Seas. This was undoubtedly the final homeland — it was where Proto-Indo-European developed its unique characteristics. However, it is probable that this was not the original homeland of the speakers of what was to become Proto-Indo-European. In a paper published in 1997, Johanna Nichols argued that the earliest Indo-European speech community was located in Central Asia (note also Uhlenbeck 1937). She proposes that Pre-Proto-Indo-European spread westward across the steppes, eventually arriving on the northeastern shores of the Black Sea. I support this scenario. I would place the Pre-Indo-Europeans in Central Asia at about 7,000 BCE, and I would date their initial arrival in the vicinity of the Black Sea at about 5,000 BCE — this is somewhat earlier than the date Nichols assigns. No doubt, the immigration occurred in waves and took place over an extended period of time. Though it is not known for certain what language or languages were spoken in the area before the arrival of Indo-European-speaking people, it is known that the Pre-Indo-Europeans were not the first inhabitants of the area — several chronologically and geographically distinct cultural complexes have been identified there. This is an extremely critical point. The contact that resulted between these two (or more) linguistic communities is what produced the Indo-European parent language.

Fortunately, there are clues regarding who may have been there when the Pre-Indo-Europeans arrived on the shores of the Black Sea. In a series of papers written over the past twenty years or so, John Colarusso has explored phyletic links between Proto-Indo-European and Northwest Caucasian. Colarusso has identified similarities in both morphology and lexicon — enough of them for Colarusso to think in terms of a genetic relationship between Proto-Indo-European and Northwest Caucasian. (The Northwest Caucasian family tree is shown in figure 5.) He calls their common ancestor "Proto-Pontic", which he dates to roughly 10,000 BP (9,000 to 7,000 BCE). (The Proto-Pontic phonological system is shown in figure 6.)

Figure 5: The Northwest Caucasian family tree:



Notes:

1. Ubykh is now extinct;
2. Abaza is also called Tapanta (T'ap'anta);
3. Chirikba (1996a) considers Hattic to have been a Northwest Caucasian language;
4. The Adyghe (also called "West Circassian") branch of Circassian is made up of many dialects, the most important of which are Temirgoy, Bžedux, and Šapsegh;
5. Kabardian is also called "East Circassian" — East Circassian also includes Besleney.

Figure 6: The phonological system reconstructed for "Proto-Pontic" by Colarusso:

Consonants:		p^{h}	p	b	-			m			w
	t^{h}	t	d	t'			n	r	l		
	c^{h}	c	ʒ	c'	s	z					
	č^{h}	č	ǯ	č'	š	ž				y	
	ƛ^{h}	ƛ	λ	ƛ'							
	k^{h}	k	g	k'	x̂	ĝ					
	q^{h}	q	-	q'	x	ɣ					
						ḥ	ʕ				
					ʔ	h					
Vowels:				i		u					
				e	ə	o					
					a						

Before discussing Colarusso's theories, it would be helpful to outline some of the salient characteristics of the Northwest Caucasian languages, just as we did for Proto-Indo-European above. One of the most noteworthy features of the Northwest Caucasian languages is their large consonant inventories and relatively small vowel inventories. Vowel gradation is a notable charateristic. (The phonological systems of the individual Northwest Caucasian languages are discussed in great detail by Colarusso in his 1975 Harvard University Ph.D. dissertation and by Hewitt in his 2005 *Lingua* article, "North West Caucasian".) The Northwest Caucasian languages are agglutinating languages, with ergative clause alignment. In general, noun morphology is simple. Nouns are marked for case, number, and definiteness, but not gender (Abkhaz and Abaza/Tapanta are exceptions). Demonstratives are characterized by three degrees of deixis: (1) proximate, (2) intermediate, and (3) distant (Ubykh, however, has only two degrees of deixis). Postpositions are the rule. A particularly notable feature of the Northwest Caucasian languages is their highly complex (polysynthetic) verb systems. Gerundive and participial forms are also widely used. Word order is SOV. The lexicon is analyzable into a small number of short roots.

Let us now take a closer look at Colarusso's proposals. First, he makes significant changes to the reconstruction of the Proto-Indo-European phonological system. He calls his new reconstruction "Fortified Proto-Indo-European" (figure 7). It consists of three series of stops (voiceless aspirated, plain voiced, and glottalized); palatalized, plain, and labialized velars; a series of plain and labialized postvelars; and eleven laryngeals, including labialized varieties. Colarusso posits only two vowels for "Fortified Proto-Indo-European": *_ə_ ~ *_a_ (plus tonal stress). He claims that his revisions present a typologically more accurate form of Proto-Indo-European, and, in this, he is most definitely correct, whether one agrees or not with the details of his reconstruction.

Figure 7: "Fortified Proto-Indo-European" phonological system as reconstructed by Colarusso (1992a:23):

Consonants:	p^{h}	b	-		m			w
	t^{h}	d	t'	s	n	r	l	
	k^{hy}	g^{y}	k'^{y}					
	(k^{h}	g	k')					
	k^{hw}	g^{w}	k'^{w}					
	q^{h}	-	q'	x	ɣ			
	q^{hw}	-	q'^{w}	x^{w}	ɣ^{w}			
					ḥ	ʕ		
					ḥ^{w}	ʕ^{w}		
			ʔ	h				
			ʔ^{w}					

Vowels: ə ~ a (plus tonal stress)

Note: Colarusso assumes that the laryngeals were lost in stages. The earliest laryngeals to be lost were *_ʔ_, *_h_, and *_ʔ_^{w}. The loss of these laryngeals between preceding short vowels and a following obstruent gave rise to "inherently" long vowels. The remaining laryngeals underwent various changes and were eventually lost altogether prior to the emergence of the non-Anatolian daughter languages. Some laryngeal reflexes persisted in Anatolian.

Next, Colarusso investigates morphological similarities, beginning with a series of nominal suffixes, which he claims are common to Proto-Indo-European and Northwest Caucasian. Next, he lists several other endings, such as participles, abstracts, cases, etc. After discussing these endings, he moves on to demonstrative and personal pronouns. He finishes his examination of morphology with particles and verbal endings and suffixes (figures 8—12).

Figure 8: Nominal suffixes which Colarusso (1992a:26—30) claims are common to Proto-Indo-European and Proto-Northwest Caucasian:

Proto-Indo-European	Proto-Northwest Caucasian
1. Athematic *_-Ø_	Athematic stems
2. Thematic *_-e/o-_	Thematic stems
3. Adjectives in *_-(e)w-_	Predicative and adverbial *_-u_, *_-(ə)w_
4. Adjectives in *_-yo-_	Adjectives in *_-ĝa-_
5. Abstract adjectives in *_-iyo-_	Adjectives in *_-ya-_
6. Opposition with other stems: *_-yo-_	Enclitic copula *_-g_^{y}_a-_ 'and'
7. Used in oblique cases: *_-en-_	Oblique case, genitive formant *_-n-_ or *_-m-_
8. Secondary NPs: *_-no-_	Derivational suffix *_-nə-_
9. Participle endings *_-eno-_, *_-ono-_	"Pro-tense" *_-ən-_ (replaces tense in concatenated or subordinated ["dependent"] forms)
10. Old kinship suffix *_-(t)er-_	Participle *_X-t_^{h}_-ər_
11. Heteroclitic *_-r-_/*_-n-_	*_-(ə)r_ in absolutive, *_-əm-_ or *_-ən-_ in oblique cases
12. Comparative *_-yes-_/*_-yos-_,	Comparative *_-y-ć_^{h},

superlative *_-is-t(h)o-_	superlative *_-y-ć_^{h}_-(də)da_
13. Agents in *_-ter-_, *_-tel-_	Instrumental (Abaza) _-la-_
14. Instrumentals in *_-tro-_, *_-tlo-_, *_-dhro-_, *_-dhlo-_	Instrumental *_-la-_ (same as no. 13)
15. Nominal action suffix *_-men-_	Old affix *_-ma_

Figure 9: Participles, abstracts, case forms, etc. common to Proto-Indo-European and Proto-Northwest Caucasian (cf. Colarusso 1992a:30—32):

Proto-Indo-European	Proto-Northwest Caucasian
Participles, abstracts, etc.	
1. Active participle *_-ent-_, *_-ont-_, *_-n̥t-_	Old participle endings: Abaza _-n_; Ubykh _-nə_, _-na_, plus (Circassian) durative _-t_^{h}_-_
2. Perfect active participle *_-we/os-_, *_-we/ot-_	Aspect suffix *_-w(a)-_
3. Feminines and abstracts in *_-ā_, *_-y-ā_ (< *_-eA_, *_-y-eA_)	*_-xa_ 'woman'
4. Collectives in *_-yā_	Collective *_-ĝa_
Case forms	
5. Accusative *_-m_/*_-n_	Oblique: Circassian _-m_, Ubykh _-n_
6. Genitive/ablative *_-(e/o)s_	Old genitive *_-š_
7. Genitive (thematic) *_-o-s(y)o_	*_-š-y-a_ > *_-š_^{y} oblique of pronouns in West Circassian
8. Ablative (thematic) *_-ō_	Ubykh _-x_^{y}_a_, Abkhaz-Abaza _-x_^{y}_a_ 'place'
9. Dative *_-ey-_	Directive-dative *_-y(-a)_
10. Locative *_-i_	Old Bžedux dative of pronouns _-y_
11. Instrumental *_-ē_, *_-ō_	*_-ə-a_ > *_-ə̄_, *_-a-a_ > *_-ā_, with *_-a_ the same as in the thematic ablative

Figure 10: Anaphoric, deictic, and relative stems and personal pronoun stems (cf. Colarusso 1992a:32—33):

Proto-Indo-European	Proto-Northwest Caucasian
1. Anaphora: *_so-_, *_to-_	*_śa_ 'what', *_t_^{h}_ə_ 'where'
2. Deixis: *_-w-_ > Sanskrit _asau_	*_wə-_ 'that (near hearer)'
3. Relative: *_yo-_	Abkhaz-Abaza _y-_ relative initial verbal index
4. Nominative first person personal pronoun *_egō_, oblique *_-(e)m_	*_m-_ 'that near me'
5. Second person personal pronoun *_tu_	*_w-_ (< *_t_^{h}_w-_) (f.) 'you'

Figure 11: Preverbs and particles (cf. Colarusso 1992a:33—35):

	Proto-Indo-European	Proto-Northwest Caucasian
1.	*_perə̯-_ 'before' (< 'front')	*_p^ha-r-(a-y-)_ 'front-along- (dat.-dir.-)'
2.	*_en-_ 'in' (< 'interior, inside')	Abaza _-n-_ in _n-c'a-ra_ 'in-place-inf.' = 'to place inside'
3.	*_et-_ 'without, outside' (< 'exterior, outside')	Abaza _-t-_ 'from inside out; from below upwards' (cf. _t-ga-ra_ 'out-drag-inf.' = 'to drag something out')
4.	Final *_s_	Old oblique in *_-š_
5.	*_r̥_ 'and'	*_-ra_ 'and'
6.	*_ge_ 'because; terminus'	Dative-instrumental *_-y-k'_

Figure 12: Verbal endings and suffixes (cf. Colarusso 1992a:35—40):

	Proto-Indo-European	Proto-Northwest Caucasian
1.	Athematic: Sanskrit _ád-mi_ 'I am eating'; Thematic: Sanskrit _rod-ā-mi_ 'I am crying'	Basic verb athematic: *_-t^h-_ 'to be'; *_-w-k'-_ -valence-kill-, Ubykh _Ø-s-k'^{w}-q'á_ 'it-I-kill- past' = 'I killed it'; Verbs with stem final _-a-_ showing thematic conjugation: West Circassian _psaaƛa_ 'word', _t-zara-psaƛa-a-ɣa_ 'we-reciprocal-converse-thematic V-past' = 'we talked'
2.	Intensive reduplication: Sanskrit _dediṣ-te_ 'he teaches and teaches'	West Circassian _-śa-śa-_ 'fall-fall' = 'to Fall (as of leaves)'
3.	Proto-Indo-European themes with *_-ē-_, *_-ō-_, *_-ā-_:	
	I. *_-ē-_ (< *_-eə̯$_1$-_) stative sense	*_-q'a-V-_ affix for action of intimate concern to the speaker
	II. *_-ā-_ (< *_-e ə̯$_2$-_) iterative sense	*_-x-_ iterative
	III. *_-ō-_ (< *_-eə̯$_3$-_) indicating excess	*_-q'^{w}a_ 'excess'
4.	Causative-iterative: *_-eyo-_, *_-ī-_, *_-y-_	Ubykh _-aay-_ 'again, finally'
5.	Sigmatic aorist: *_-s-_	Circassian _-z-_ stative or accomplished past participle with past pt.
6.	*_n_-infix presents	Ubykh _-n_ dynamic present
7.	Primary active 3rd plurals in *_-n-_; extended by *_-ti_ > *_-(e/o)-n-ti_	Ubykh 3rd plural _-na-_
8.	Middle voice in *_-dh-_	Abaza optative of self-interest _s-č'a-n-da_ 'I-eat-dep.-middle' = 'O, if I could eat!'
9.	Perfects in *_-k-_, *_-g-_, *_-gh-_	*_-q'a_ past
10.	Optative in *_-yē-_, *_-yə-_	*_-əy-_ optative, concessive
11.	Primary, active, present, athematic *_-i_	*_-y-_ present
12.	Relic impersonals in *_r_ (cf. Sanskrit _śe-re_ 'they are lying down'; Old Irish _berir_ 'he is carried'; Umbrian _ier_ 'one goes')	*_-ra_ optional present
13.	Futures in *_-(ə̯)s(y)e-_/*_-(ə̯)s(y)o-_	*_-š-_ future
14.	Intensives in *_-sk(e/o)-_	*_-śx̂o_ > Proto-Circassian *_-śx̂^{w}ə_
15.	Augment *_e-_ (marks the past)	*_ʔ(a)_ > Proto-Circassian *_q'(a)_

Colarusso ends his study by listing twenty "conventional cognates" between Proto-Indo-European and Northwest Caucasian. As a result of my own research, I have come up with 150 potential lexical parallels (including some suggested by Colarusso) between Proto-Indo-European and Northwest Caucasian, and these are listed at the end of this paper — no doubt, there are many more.

I believe that Colarusso's work has enormous merit, though not all of his proposals are convincing. However, rather than view these similarities as evidence of genetic relationship, I prefer to see them as evidence that there was prolonged and substantial contact between Proto-Indo-European and Northwest Caucasian. As a result of the socio-cultural interaction with and resultant borrowing from Caucasian languages, especially primordial Northwest Caucasian languages, Proto-Indo-European developed unique characteristics that set it apart from the other languages of northern Eurasia. Though Proto-Indo-European remained a Eurasiatic language at its core, the interaction had a profound impact on the phonology, morphology, and lexicon of Proto-Indo-European (technically, this is known as "contact-induced language change") and gave it a distinctive, Caucasian-like appearance. Cf. Kortlandt 1990.

We have now answered the questions posed at the beginning of this paper: What exactly is Proto-Indo-European, and where did it come from? Which languages did it come into contact with, and can evidence of such contact be ascertained? Moreover, what was the impact of that contact on the phonology, morphology, and lexicon of Proto-Indo-European? The precursor of Proto-Indo-European came from Central Asia. Proto-Indo-European proper is the result of the imposition of a Eurasiatic language on a population speaking one or more primordial Northwest Caucasian languages, as first hinted at by Uhlenbeck (1937).

But, there is more. One of the most significant byproducts of this study is that it provides empirical support for the Glottalic Model of Proto-Indo-European consonantism as well as the interpretation of the traditional plain voiceless stops as voiceless aspirates. Though we cannot say for certain on the basis of this study whether voiced aspirates existed in Proto-Indo-European at the time of contact with Northwest Caucasian languages, there is nothing to indicate that they did. Indeed, the most straightforward explanation is that voiced aspirates arose at a later date in the Disintegrating Indo-European dialects that gave rise to Indo-Iranian, Armenian, Greek, and Italic. Nevertheless, for the sake of conformity with the traditional reconstruction of the Proto-Indo-European consonant system, voiced aspirates are shown in the Proto-Indo-European forms used in the comparison with Northwest Caucasian.

Another important insight that can be gleaned from this study is that the Pre-Proto-Indo-European morphological system changed dramatically as a result of contact with Northwest Caucasian languages — in certain respects, it became more complicated. At the same time, some of the earlier morphology must have been lost. In his 2002 book entitled *Pre-Indo-European*, Winfred P. Lehmann suggested that three endings represented the most ancient layer of the Proto-Indo-European case system — these endings were: *-*s*, *-*m*, and *-*H* (= * ʔ̯$_4$). According to Lehmann, *-*s* indicated an individual and, when used in clauses, identified the agent; *-*m* used in clauses indicated the target; and *-*H* supplied a collective meaning. Lehmann further maintains that the remaining case endings were based upon earlier adverbial particles that came to be incorporated into the case system over time. That this has indeed taken place is especially clear in the case of the dual and plural endings in *-*bʰi*- and *-*mo*-, which were incorporated into the Proto-Indo-European case system after Hittite and the other Anatolian daughter languages had split from the main speech community. This study indirectly corroborates Lehmann's views, though details of how and when the individual case endings traditionally reconstructed for Proto-Indo-European arose still need to be worked out — it may be noted that a good start has recently been made in this direction by the Czech scholar Václav Blažek (2014) and, before him, by Beekes (1985), Haudry (1982), Kim (2010), Kuryłowicz (1964), Shields (1982), and Specht (1944), among others (see also Kulikov 2012).

This paper is only a beginning. More rigorous studies must be undertaken to determine the extent to which Pre-Proto-Indo-European was transformed through contact with Northwest Caucasian from a typical Eurasiatic language to the proto-language reconstructed in the standard handbooks on the basis of a direct comparison of the extant daughter languages. The improved understanding of the complex origins of Proto-Indo-European that will emerge from these studies will provide a more solid basis for comparison with other languages.

The remainder of this paper lists the potential lexical parallels I have uncovered to date between Proto-Indo-European and Northwest Caucasian (it includes several lexical parallels previously proposed by Colarusso). The Abkhaz entries are taken from Chirikba's 1996 book *A Dictionary of Common Abkhaz*, and the Circassian entries are from Kuipers' 1975 book *A Dictionary of Proto-Circassian Roots*. Several other works have also been consulted. The Indo-European material is taken from the standard etymological dictionaries listed in the references at the end of this paper. The Proto-Indo-European reconstructions are in accordance with the Glottalic Model of Proto-Indo-European consonantism.

Notes:

1. Since the sole purpose of this study is to show that there was "prolonged and substantial contact between Proto-Indo-European and Northwest Caucasian", no attempt has been made to trace the prehistoric development of either Proto-Indo-European or Proto-Northwest Caucasian here. For Indo-European, good places to start are Lehmann's 2002 book *Pre-Indo-European*, the writings of Frederik Kortlandt (2010a), and Gamkrelidze—Ivanov's 1995 two-volume monograph *Indo-European and the Indo-Europeans: A Reconstruction and Historical Typological Analysis of a Protolanguage and a Proto-Culture*, and for Northwest Caucasian, Chirikba's 2015 paper "From North to North-West", together with Colarusso's 1975 Ph.D. dissertation *The Northwest Caucasian Languages: A Phonological Survey* (republished in 2014, with corrections and emendations) and his 1989 paper "Proto-Northwest Caucasian (or How to Crack a Very Hard Nut)".
2. One of the principal points made in Chirikba's 2015 paper "From North to North-West" is that Northwest Caucasian was transformed over time from a typical North Caucasian branch to a separate phylum in its own right — one that was markedly different from the branch(es) that went on to form the Northeast Caucasian languages. Here, one cannot help thinking that the contact between Pre-Proto-Indo-European and Pre-Proto-Northwest Caucasian might have had an equally transformative effect ("contact-induced language change") on what was to become Proto-Northwest Caucasian.
3. It is beyond the scope of this study to delve into the question of the genetic relationship between Northwest and Northeast Caucasian. Here again, see Chirikba's paper mentioned above (together with the references cited therein) as well as Sergej A. Starostin and Sergej L. Nikolayev's 1994 monograph *A North Caucasian Etymological Dictionary*, especially the Introduction.
4. Sergej Starostin published a paper in Russian in 1988 (republished in English in 2009) with a somewhat similar goal but using different data and including both Northwest and Northeast Caucasian (mostly Northeast Caucasian). One of his conclusions, in particular, agrees with that reached in this study and is worth repeating:

   > Although between the PNC [Proto-North Caucasian] and PIE [Proto-Indo-European] systems sufficiently regular phonetic correspondences can be established, the character of the shared vocabulary does not eliminate doubts that the common character of these lexemes is not the result of an original kinship but rather the result of borrowings…

   However, the current study differs from Starostin's findings in that it shows that it was specifically Proto-Northwest Caucasian or, better put, what was to become Proto-Northwest Caucasian that was in prolonged and substantial contact with Proto-Indo-European and not Proto-Northeast Caucasian and certainly not Proto-North Caucasian.
5. Many of the conclusions reached in this paper were foreseen by Uhlenbeck.

LEXICAL PARALLELS BETWEEN PROTO-INDO-EUROPEAN AND NORTHWEST CAUCASIAN

1. Proto-Indo-European **Ae+wo-* [**Aa+wo-*] (> **awo-*) 'this, that': Sanskrit (gen. dual) *avóḥ* 'those two'; Avestan *ava-* 'that'; Old Persian *ava-* 'that', (adv.) *avā* 'thus'; Old Church Slavic *ovъ* 'someone, someone else, other'; Old Czech *ov* 'that'; Slovenian *ǫ́v* 'this, that'; Bulgarian *óvi* 'that'.

   Northwest Caucasian: Common Abkhaz **wa*: South Abkhaz *wa* 'there'; Ashkharywa *wa* 'there'. Also **wa* 'this' in, for example, **w-aqə́* 'tonight' (< **wa* 'this' + **aqa* 'night'): Bzyb *wax̱̌á* 'tonight'; Abzhywa *wax̌á* 'tonight'; Ashkharywa *woqa* 'tonight'; Abaza/Tapanta *waqá* 'tonight'. Common Abkhaz **wə́-jə*: South Abkhaz *wəj* 'this, that; he, she'; Ashkharywa *wəj* 'this, that; he, she'. Common

Abkhaz **wə-tə*: South Abkhaz *wət* 'they'; Ashkharywa *wət* 'they'. Common Abkhaz **a-wa*: Abaza/Tapanta *awa* 'that'.

2. Proto-Indo-European **ʔabʰ-* 'father, forefather, man' (**ʔ* = **ə̯*$_1$): Gothic *aba* 'man, husband'; Old Icelandic *afi* 'grand-father, man'; Old English personal names *Aba*, *Abba*, *Afa*; Old High German personal name *Abo*.

   Northwest Caucasian: Common Abkhaz **abá*: South Abkhaz *ab* 'father'; Ashkharywa *ába* 'father'; Abaza/Tapanta *ába*/*abá* 'father'.

3. Proto-Indo-European **ʔan(n)o-s*, **ʔan(n)i-s*, **ʔan(n)a* 'mother' (**ʔ* = **ə̯*$_1$) (also **na-na-* 'mother'): Luwian (nom. sg.) *an-ni-iš*, *a-an-ni-iš* 'mother'; Hittite (nom. sg.) *an-na-aš* 'mother'; Palaic (nom. sg.) *an-na-aš* 'mother'; Lycian (nom. sg.) *ẽni* 'mother'; Lydian (nom. sg.) *ẽnaś* 'mother'; Latin *anna* 'foster-mother'; Greek (Hesychius) ἀννίς· 'grand-mother', νάννα, νάννας 'aunt'; Sanskrit *nanā́* familiar expression for 'mother'.

   Northwest Caucasian: Proto-Circassian **n(a)* 'mother': Bžedux *nə*, *yāna* 'mother', *nāna* 'mamma, granny'; Kabardian *hana* 'mother', *nāna* 'mamma, granny'. Common Abkhaz **anə́*: South Abkhaz *an* 'mother'; Ashkharywa *an* 'mother', (indefinite sg.) *anə́-k'*; Abaza/Tapanta *anə* 'mother'.

4. Proto-Indo-European demonstrative stem **ʔe-*/**ʔo-*, **ʔey-*/**ʔoy-*/**ʔi-* (< **ʔe-*/**ʔo-+-y/i-*) 'this, that' (**ʔ* = **ə̯*$_1$): Hittite enclitic demonstrative particle (nom. sg.) *-aš*, (acc. sg.) *-an*, (n. sg.) *-at* 'he, she, it'; (dat. sg.) *e-di*, *i-di*, *e-da-ni* 'to or for him, her, it'; Sanskrit *ayám* 'this' (gen. sg. m./n. *a-syá*, *á-sya*; f. *a-syā́ḥ*), *idám* 'this', (f.) *iyám* 'she, this', *á-taḥ* 'from this, hence' (< **e-to-s*), (n.) *e-tát* 'this, this here', *ihá* 'here', *e-ṣá* (f. *e-ṣā*) 'this'; Old Persian *a-* 'this', *aita-* 'this', *ima-* 'this', *iyam* this', *idā* 'here'; Avestan *a-* 'this', *aētaṯ* 'this', *ima-* 'this', *iδa* 'here'; Latin *is*, *ea*, *id* 'he, she, it; this or that person or thing'; Oscan *eiso-* 'this'; Old Irish *é* 'he, they', *ed* 'it'; Gothic anaphoric pronoun *is* 'he', *ita* 'it'; Old Icelandic relative particle *es* (later *er*) 'who, which, what'; Old Saxon *et*, *it* 'it'; Old High German *er*, *ir* 'he', *ez*, *iz* 'it'; Lithuanian *jìs* (< **is*) 'he'.

   Northwest Caucasian: Common Abkhaz **a* demonstrative pronoun: 'this' (only in compounds) (this is but a sampling): Common Abkhaz **a-bá* 'this'; Common Abkhaz **a-bá-tə* 'these'; Common Abkhaz **a-ba-ná* 'there'; Common Abkhaz **a-ba-rá* 'here'; Common Abkhaz **a-bá-ra-t(ə)* 'these'; Common Abkhaz **a-ba-rə́-jə* 'this'; Common Abkhaz **a-də́-na* 'something, this, that'; Common Abkhaz **á-tə* 'these'; Common Abkhaz **á-ɦa* 'here (it is)'; Common Abkhaz **a-ma-ná* 'there'; Common Abkhaz **a-ma-nə́-jə* 'that'; Common Abkhaz **a-ná* 'there'; Common Abkhaz **a-rá* 'here'; Common Abkhaz **a-wa* 'that'; etc.

5. Proto-Indo-European **ʔebʰ-r-* (?) 'male of small hoofed animals' (**ʔ* = **ə̯*$_1$) : Thracian ἕβρος· 'buck' (ἕβρος· τράγος, βάτης· καὶ ποταμὸς Θρᾴκης). Proto-Germanic **eƀuraz* 'wild boar' > Old Icelandic *jöfurr* 'wild boar; (meta-phorically) king, warrior'; Old English *eofor*, *eofur* 'boar, wild boar'; Old High German *ebur* 'wild boar'.

   Notes:
   1. The above forms are usually compared with some-what similar forms in Italic and Balto-Slavic: (A) Italic: Latin *aper* 'wild boar'; Umbrian (acc. sg.) **abrunu** 'boar' (the Umbrian form refers specifically to domestic boars offered as a sacrifice). The Proto-Italic form was probably **apro-* or **aprōn-*. (B) Balto-Slavic: Latvian *vepris* 'castrated boar'; Old Church Slavic *veprь* 'boar'; Russian *vepr'* [вепрь] 'wild boar'; Czech *vepř* 'pig'.
   2. The attested forms have been remodeled in each of the daughter languages, making it difficult to reconstruct the Proto-Indo-European form.
   3. For the semantic correlation between the Indo-European and Abkhaz forms, cf. Greek κάπρος 'boar, wild boar' ~ Latin *caper* 'he-goat, buck'; Old Icelandic *hafr* 'buck, he-goat'; Faroese *havur* 'billy-goat'.

Northwest Caucasian: Proto-Abkhaz **abə́*: South Abkhaz *ab* '(castrated) he-goat', (indef. sg.) *abə́-k'*; Ashkharywa *ab* '(castrated) he-goat'; Abaza/Tapanta *ab* '(castrated) he-goat', (indef. sg.) *abə́-k'*. Note also South Abkhaz *abəznə́žᵒ* 'male goat half a year old' (< **abə* 'he-goat', **za-nə* 'one', **ažᵒə* 'old').

6. Proto-Indo-European **ʔen-* 'in, into, among, on' (**ʔ* = **ə̭*$_1$): Greek ἔν, ἔνι, ἐνί 'in, on, among, into, and besides'; Latin *in* (Old Latin *en*) 'in, on, among, into, on to, towards, against'; Oscan *en* 'in'; Old Irish *ini-*, *en-*, *in-* 'in, into'; Welsh *in* 'in'; Breton *en* 'in'; Gothic *in* 'in, into, among, by', *inn* 'into'; Old Icelandic *í* 'in, within, among', *inn* 'in, into'; Old English *in* 'in, on, among, into, during', *inn* 'in'; Old Frisian *in* 'in'; Old Saxon *in* 'in'; Old High German *in* 'in'; Old Prussian *en* 'inside, within'; Old Church Slavic *vъ(n)* 'in(to)'.

   Northwest Caucasian: Common Abkhaz **nə*: South Abkhaz *a-nə́-z-aa-ra* 'to be (on something)'. Common Abkhaz **nə* locative in **nə-já*: South Abkhaz *a-n-ja-ra* 'to happen, to meet'; Abaza/Tapanta *n-ja-rá* 'to happen, to meet'. Also note *-nə* 'place, country' in, for example: Abzhywa *aps-nə́* 'Abkhazia'; Sadz *aps-nə́* 'Abkhazia'; Ahchypsy *aps-nə́* 'Abkhazia'.

7. Proto-Indo-European **ʔepʰ-*/**ʔopʰ-* 'to take, to grab' (**ʔ* = **ə̭*$_1$): Latin *apīscor* 'to seize, to grasp; to get, to obtain', *apiō* 'to tie, to fasten'; Hittite (3rd sg. pres. act.) *e-ep-zi* 'to take, to seize, to grab, to pick, to capture'; Sanskrit *āpnóti* 'to reach, to overtake'.

   Northwest Caucasian: Common Abkhaz **apə-š'ə́*: Bzyp *apə-š'-ra* 'to connect, to bind'; Abaza/Tapanta *ap-š'ə-l-ra* 'to connect, to bind' (*j-apə-l-š'ə́-l-d* 'she connected it').

8. Proto-Indo-European **ʔetʰi* (< **ʔe*+**tʰi*) 'out, beyond' (**ʔ* = **ə̭*$_1$): Sanskrit *áti* 'beyond, over'; Greek ἔτι 'yet, as yet, still; further, moreover, besides; hereafter'; Latin *et* 'and'.

   Northwest Caucasian: Common Abkhaz **ta* 'from inside out; from below, upwards': Abaza/Tapanta *t-* in, for example, *t-ga-ra* 'to drag something out' (cf. *ga-rá* 'to carry, to bring, to take').

9. Proto-Indo-European **ʔey-*/**ʔoy-*/**ʔi-* 'to go' (**ʔ* = **ə̭*$_1$): Greek (1st sg. pres.) εἶμι 'I go', (1st pl. pres.) ἴμεν 'we go'; Sanskrit (1st sg. pres.) *émi* 'I go', (3rd sg. pres.) *éti* 'goes', (1st pl. pres.) *imáḥ* 'we go', (3rd pl. pres.) *yánti* 'they go', (3rd sg. pres.) *yā́ti* 'goes, moves, rides'; Latin (1st sg. pres.) *eō* 'I go'; Old Lithuanian (3rd sg. pres.) *eĩti* 'goes'; Old Prussian (3rd sg. pres.) *ēit* 'goes', *per-ēit* 'comes'; Old Church Slavic *idǫ*, *iti* 'to go'; Luwian (3rd sg. pres.) *i-ti* 'goes'; Hittite (imptv.) *i-it* 'go!'; Tocharian A (1st pl.) *ymäs* 'we go', B (1st sg.) *yam*, *yaṁ* 'I go'.

   Northwest Caucasian: Common Abkhaz **jə*: Abaza/Tapanta *ɦá-j-ra* 'to come', *na-j-ra* 'to go' (*na-* 'thither'); South Abkhaz *aá-j-ra* 'to come', *a-ná-j-ra* 'to go'.

10. Proto-Indo-European **ʔey-*/**ʔoy-* 'of variegated color' (**ʔ* = **ə̭*$_1$): Sanskrit *éta-ḥ* '(adj.) shining, of variegated color; (n. m.) a kind of antelope', *eṇi-ḥ* 'black antelope'. Also used in various tree names: Greek οἴη, ὄη, ὄα 'the service-tree'; Old Irish *éo* 'yew-tree'; Old Saxon (pl.) *īchas* 'yew-tree'; Old High German *īgo* 'yew-tree'; Lithuanian *ievà* 'bird-cherry tree'; Russian Church Slavic *iva* 'willow-tree'.

    Northwest Caucasian: Common Abkhaz **aja*: South Abkhaz *aja* 'pallid, dim, wan (color)' (arch.).

11. Proto-Indo-European **ʔoy-* 'single, alone, solitary; one' (with non-apophonic *-o-*) (extended forms: (A) **ʔoy-no-*, (B) *ʔoy-wo-*, (C) **ʔoy-kʰo-*) (**ʔ* = **ə̭*$_1$):

    A. **ʔoy-no-*: Latin *ūnus* 'one' [Old Latin *oinos*]; Old Irish *óen*, *óin* 'one'; Gothic *ains* 'one'; Old Icelandic *einn* 'one'; Old English *ān* 'one; alone, sole, lonely; singular, unique'; Old Saxon *ēn* 'one'; Old High German *ein* 'one'; Lithuanian *víenas* (with unexplained initial *v-*) 'one; alone'; Old Prussian *ains* 'one'; Old Church Slavic *inъ* 'some(one), other'; Russian Church Slavic *inokyj* 'only, sole, solitary'; Russian *inój* [иной] 'different, other' — it is also found in Greek οἴνη, οἰνός 'roll of one (in dice)'.

B. **ʔoy-wo-*: Avestan *aēva-* 'one'; Old Persian *aiva-* 'one' — it is also found in Greek οἶος 'alone, lone, lonely' (Cyprian οἶϝος).
C. **ʔoy-kʰo-*: Sanskrit *éka-ḥ* 'one'; Mitanni ("Proto-Indic") *aika-* 'one'.

Northwest Caucasian: Common Abkhaz **ajə́ba*: Abzhywa *ájba* 'orphan'; Bzyp *áajba* (indef. sg. *ajbá-k'*), *ajbá* 'orphan'; Abaza/Tapanta *jə́ba* (indef. sg. *jə́ba-k'*) 'orphan'. In South Abkhaz, also 'widow'.

12. Proto-Indo-European **ʔyo-* relative pronoun stem (**ʔ* = **ə̥₁*): Greek ὅς, ἥ, ὅ 'which'; Phrygian ιος 'which; this'; Sanskrit *yá-ḥ* 'which'.

Northwest Caucasian: Common Abkhaz **ja-* relative/interrogative stem in: **ja(-rá)* 'he (male/human); it (non-human); this, the very same'; **ja-wá(-ja)* 'why?'; **j-an-b-ák'ᵒə* 'when?': South Abkhaz *ja-rá* 'he (male/human); it (non-human); this, the very same'; Ashkharywa *ja-rá* 'he; it; this, the very same'; Abaza/Tapanta *ja-rá* 'he; it; this, the very same'. Bzyp *j-an-bə-k'ᵒ* 'when?'; Abaza/Tapanta *j-an-b-ák'ᵒə-w* 'when?'. Bzyp *jawá(j)* 'why?'; Abaza/Tapanta *jawá* 'why?'.

13. Proto-Indo-European **bʰē̆/*bʰō̆* emphatic particle: Gothic *ba* (encl. ptc.) 'if, even though'; Avestan *bā* 'truly'; Greek φή 'as, like as'; Lithuanian *bà* 'yes, certainly'; Old Church Slavic *bo* 'for'; Russian (dial.) *bo* [бо] 'if, for, because'.

Northwest Caucasian: Common Abkhaz **ba*: South Abkhaz *ba* interrogative particle used in echo-questions, as in *d-aá-j-t'* 'he came' ~ *d-aá-j-t' ba?* 'did he?' // 'are you saying that he has come?'; it also occurs, for example, in *j-abá* 'where?' (< *j(ə)* 'it' + **a* deixis of place + **ba* interrogative element) and *j-an-bá* 'when?' (< **an* 'when' + **ba* interrogative element).

14. Proto-Indo-European **bʰen-* 'to slay, to wound': Gothic *banja* 'strike, blow, wound'; Old Icelandic (f.) *ben* 'mortal wound; small bleeding wound'; Old English *bana* 'killer, slayer, murderer', *benn* 'wound, mortal injury'; Old High German *bano* 'death, destruction'; Avestan *bąn-* 'to make ill, to afflict'.

Northwest Caucasian: Proto-Circassian **ban(a)* 'to fight': Bžedux *ya-ban* 'to fight'; Kabardian *bāna*, *ya-ban* 'to fight'.

15. Proto-Indo-European **bʰer-/*bʰor-/*bʰr̥-* 'to make a sound, to hum, to buzz, to mutter': Sanskrit *bambhara-ḥ* 'bee', *bambharālī̆-* 'fly'; Armenian *boṙ* 'bumble-bee, hornet'; Greek πεμφρηδών 'a kind of wasp'; Lithuanian *barbė́ti* 'to jingle, to clink', *birbiù*, *birbiaũ*, *bir̃ti* 'to play a reed(-pipe)/flute', *burbiù*, *burbė́ti* 'to mutter, to mumble, to grumble'.

Northwest Caucasian: Common Abkhaz (reduplicated) **bar-bár*: South Abkhaz *a-barbár-ra* '(to) chatter, jabber; babble'. Common Abkhaz **bər-bər* (a variant of **bar-bár*): Abzhywa *d-bər-bər-wa* 'be grumbling'; Abaza/Tapanta (adv.) *bər-bə́r-ħᵒa* (adv.) 'growling, grumbling'.

16. Proto-Indo-European **bʰes-/*bʰos-* 'to breathe, to blow': Sanskrit *bhas-* 'to breathe, to blow' in: *bhásma-ḥ*, *bhásman-* 'ashes', *bhāsmana-ḥ* 'made of or consisting of ashes, ashy', *bhasita-ḥ* 'reduced to ashes', *bhastrā* 'leather bag, bellows'.

Northwest Caucasian: Common Abkhaz **bza*: South Abkhaz *a-bzá* 'alive', *a-bzá-za-ra* 'life'; Abaza/Tapanta *bza* 'alive', *bzá-za-ra* 'life'.

17. Proto-Indo-European **bʰewH-/*bʰowH-/*bʰuH-* (> **bʰū-*) 'to come into being, to become, to arise': Sanskrit *bhávati* 'to become, to be, to arise, to come into being, to exist', *bhū́ti-ḥ*, *bhūtí-ḥ* 'well-being, prosperity, wealth, fortune'; Greek φύω 'to bring forth, to produce, to put forth; to grow, to increase, to spring up, to arise'; Latin (perfect) *fuī* 'to be, to exist'; Old English *bēon* 'to be, to exist, to become, to

happen’; Old Frisian (1st sg. pres.) *bim* ‘(I) am’; Old Saxon (1st sg. pres.) *bium*, *biom* ‘(I) am’; Old High German (1st sg. pres.) *bim* ‘(I) am’ Lithuanian *bū́ti* ‘to be, to exist’, *bū̃vis* ‘existence’; Old Church Slavic *byti* ‘to be’; Russian *byt'* [быть] ‘to be’; Serbo-Croatian *bȉti* ‘to be’.

Northwest Caucasian: Proto-Circassian **baw(a)* ‘to kiss, to breathe’: Bžedux *ya-bawə/bāwa*, *ya-baw* ‘to kiss, to breathe’; Temirgoy *bawa-n* ‘to kiss, to breathe’.

18. Proto-Indo-European **bʰewH-/*bʰowH-/*bʰuH-* (> **bʰū-*) ‘to spend (time), to abide, to dwell’: Sanskrit *bhávati* ‘to become, to be, to exist, to live, to stay, to abide’; Albanian *buj* ‘to spend the night’; Gothic *bauan* ‘to dwell, to inhabit’; Old Icelandic *búa* ‘to prepare, to make ready; to dress, to attire, to adorn; to fix one’s abode in a place; to deal with, to treat; to live, to dwell; to have a household; to be; to behave, to conduct oneself’, *bú* ‘household, farming’, *ból* ‘lair’, *byggva*, *byggja* ‘to settle in a place’; Old English *būan* ‘to dwell, to inhabit, to occupy (house)’, *bū* ‘dwelling’, *bōgian* ‘to dwell, to take up one’s abode’; Old Frisian *bowa*, *būwa* ‘to dwell’, *bōgia* ‘to dwell’; Old Saxon *būan* ‘to dwell’; Old High German *būan*, *būwan*, *būen*, *būwen* ‘to dwell’.

    Northwest Caucasian: Common Abkhaz **báwra*: South Abkhaz *a-báwra* ‘cattle-shed, cow-house’; Abaza/Tapanta *báwra* ‘cattle-shed, cow-house, barn’; Sadz *a-bōra* ‘cattle-shed, cow-house’.

19. Proto-Indo-European **bʰlendʰ-/*bʰlondʰ-/*bʰl̥ndʰ-* ‘to be or become blind’: Gothic *blinds* ‘blind’, **gablindjan* ‘to make blind’, **afblindnan* ‘to become blind’; Old Icelandic *blinda* ‘to blind’, *blindr* ‘blind’, *blunda* ‘to shut the eyes’, *blundr* ‘dozing, slumber’; Old English *blendan* ‘to blind, to deceive’, *blind* ‘blind’; Old High German *blint* ‘blind’; Lithuanian *blendžiù*, *blę̃sti* ‘to become dark’, *blandùs* ‘dark, dusky, obscure, gloomy, dismal’, *blañdas* ‘cloudiness, obscuration of mind or eyesight, drowsiness’; Old Church Slavic *blędǫ*, *blęsti* ‘to go blindly’.

    Northwest Caucasian: Common Abkhaz **balə́-bata*: South Abkhaz *a-balə́bata-ra* ‘to move with uncertainty’.

20. Proto-Indo-European **bʰlu-*, **bʰluH-* (> **bʰlū-*) ‘to burn, to blaze, to light up’: Old Icelandic *blys* ‘torch’; Old High German *bluhhen* ‘to burn, to light up’; Old English *blysa* ‘torch, fire’; Middle Irish *blosc* ‘clear, evident’, *bloscad* ‘radiance’; Czech *blčeti* ‘to flash, to blaze’, *blýskati* ‘to lighten, to flash’; Polish *błysk* ‘lightning’.

    Proto-Indo-European **bʰlek’-/*bʰlok’-/*bʰl̥k’-*, **bʰelk’-/*bʰolk’-/*bʰl̥k’-* ‘to burn, to blaze, to glow’: Sanskrit *bhárgas-* ‘splendor, radiance’; Greek φλέγω ‘to burn, to blaze’; Latin *fulgor* ‘lightning’, *flagrō* ‘to blaze, to burn, to glow’; Old Icelandic *blakkr* ‘dusky, black, dun’; Old English *blācern* ‘lantern’; Old High German *blah-*, *blach-* ‘black’ (in compounds); Old Church Slavic *blagъ* ‘good’.

    Northwest Caucasian: Proto-Circassian **Pla* ‘to burn, to shine (intr.)’: Bžedux *bla* ‘to burn, to shine (intr.)’; Kabardian *bla* ‘to burn, to shine (intr.)’. Common Abkhaz **bələ́*: South Abkhaz *a-bəl-t’°ə́* ‘firewood’, *a-bəl-rá* ‘to burn, to put into fire’; Abaza/Tapanta *bəl-rá* ‘to burn, to put into fire’, *blə́bəl* ‘very hot’, (reduplicated) *blə́bəl-ra* ‘to be (very) hot; to burn (of a burn)’, *a-blə́-ra* ‘the place of burn, fire’; Ashkharywa *a-bəl-t’á* ‘firewood’; Bzyp *a-blə́-ra* ‘the place of burn, fire’.

21. Proto-Indo-European **bʰr-uH-* (> **bʰrū-*) ‘eyelash, eyebrow’: Sanskrit *bhrū́-ḥ* ‘an eyebrow, the brow’; Greek ὀ-φρῦς ‘the brow, eyebrow’; Middle Irish (gen. dual) *brúad* ‘eyebrow’; Old Icelandic *brún* (< **bʰruwōn-*) (pl. *brynn*) ‘eyebrow’; Old English *brū* ‘eyebrow; eyelid, eyelash’; Lithuanian *bruvìs* ‘eyebrow’; Old Church Slavic *brъvь* ‘eyebrow’; Russian *brov'* [бровь] ‘eyebrow’; Tocharian A *pärwān-*, B (dual) *pärwāne* ‘eyebrows’.

    Northwest Caucasian: Common Abkhaz **bra*: Bzyp *á-bra* ‘mane (of a horse)’, *a-brá-š* ‘tow-haired’; Abaza/Tapanta *bra* ‘plait, braid; hair (arch.)’, *qa-brá* ‘hair’ (*qa* ‘head’).

22. Proto-Indo-European **dʰē-dʰē-* 'older relative (male or female): grandfather, grandmother; uncle, aunt': Greek τήθη 'grandmother', τηθίς 'aunt'; Lithuanian *dė̃dė*, *dė̃dis* 'uncle'; Old Church Slavic *dědъ* 'grand-father'; Russian *ded* [дед] 'grandfather'.

    Northwest Caucasian: Common Abkhaz **dada*: South Abkhaz *dad* 'grandfather', more rarely 'father'; Ashkharywa *dada* 'father'; Abaza/Tapanta *dada* 'grandfather, father'.

23. Proto-Indo-European **dʰer-/*dʰor-/*dʰr̥-* 'to hold firmly, to support', **dʰer-mo-s* 'firm, strong': Sanskrit *dhāráyati* 'to hold, to bear, to carry; to hold up, to support, to sustain, to maintain; to carry on; to hold in, to hold back, to keep back, to restrain, to stop, to detain, to curb, to resist; to keep, to possess, to have; to hold fast, to preserve', *dhárma-ḥ* 'that which is held fast or kept: ordinance, statute, law, usage, practice, custom, customary observances; religion, piety; prescribed course of conduct, duty'; Old Persian (1st sg.) *dārayāmiy* 'to hold'; Latin *firmus* 'strong, steadfast, stable, enduring, powerful', *firmō* 'to make firm, to strengthen, to fortify, to sustain; to confirm, to establish, to show, to prove, to declare, to make certain' (derivative of *firmus*) ; Lithuanian *daraũ*, *dariaũ*, *darýti* 'to do'; Latvian *darît* 'to do'.

    Northwest Caucasian: Common Abkhaz **dára* 'strong': Abaza/Tapanta *dára* 'stingy (man)', *r-dára-ra* 'to strengthen', *dára* 'very much'; Bzyp *dáara*, *daára*, *dára* 'very (much)'; Ashkharywa *adára* 'very (much)'; Sadz *adára* 'very (much)'.

24. Proto-Indo-European (extended forms) **dʰer-gʰ-/*dʰor-gʰ-/*dʰr̥-gʰ-*, **dʰr-egʰ-/*dʰr-ogʰ-/*dʰr̥-gʰ-* 'to turn': Greek τρέχω 'to run, to move quickly', τροχός 'wheel', τρόχος 'a running course', τροχιός 'round'; Armenian *daṙnam* (< **darjnam*) 'to turn, to return', *durgn* 'a potter's wheel'; Albanian *dredh* 'to twist, to turn'; Old Irish *droch* 'wheel', *dreas* 'turn, course'. Note: For the semantic development of Greek τρέχω, cf. Old Irish *rethid* 'to run', *riuth* 'running', *roth* 'wheel', *rothán* 'the hair twisted and plaited' < **retʰH-/*rotʰH-* 'to roll, to revolve, to turn'.

    Northwest Caucasian: Common Abkhaz **darə́*: South Abkhaz *á-dar-ra* 'to spin with a double thread'. Common Abkhaz (reduplicated) **da(r)dərə́*: South Abkhaz *a-dardə́/a-dərdə́* 'spindle'; Abaza/Tapanta *dadər-ɣºə́* 'spindle'.

25. Proto-Indo-European (extended form) **dʰergʰ-*, **dʰregʰ-* 'thorny plant': Old Irish *draigen* 'sloe tree, blackthorn'; Middle Welsh *draen*, *drain* 'thornbush, brambles, briars'; Old High German *dirn-baum*, *tirn-pauma* 'cornel'; Greek τέρχνος, τρέχνος 'twig, branch'; Russian (dial.) *déren*, *derén* [дерен] 'cornel'.

    Northwest Caucasian: Common Abkhaz **dárə*: Bžedux *a-dar-ra* 'to sting (of nettle)'.

26. Proto-Indo-European **dʰew-r-yo-s* 'of great value, cost, prestige, etc.' (only in Germanic): Proto-Germanic **đeurjaz* 'costly, expensive, valuable' > Old Icelandic *dýrr* 'high-priced, costly, expensive, precious'; Old English *dēore*, *dīere* 'precious, costly, valuable; noble, excellent'; Old Frisian *diore*, *diure* 'costly, expensive'; Old Saxon *diuri* 'valuable, expensive'; Old High German *tiuri* 'valuable, expensive'. Proto-Germanic **đeurja-līkaz* 'glorious, excellent' > Old Icelandic *dýr-ligr* 'glorious'; Old Saxon *diur-līk* 'valuable, excellent'; Old High German *tiur-līh* 'valuable, excellent'. Proto-Germanic **đeuriþō* 'glory, fame' > Old Icelandic *dýrð* 'glory'; Old Saxon *diuritha* 'glory, fame'; Old High German *tiurida* 'glory, fame'.

    Northwest Caucasian: Common Abkhaz **də́wə*: South Abkhaz *dəw* 'big, great'; Ashkharywa *dəw* 'big, great'; Abaza/Tapanta *dəw* 'big, great'.

27. Proto-Indo-European **dʰm̥bʰ-* 'burial mound, kurgan': Greek τάφος (< **dʰm̥bʰo-s*) 'funeral, burial, the act of burying; burial mound, tomb', ταφή 'burial, burial-place', θάπτω (< **dʰm̥bʰyō*) 'to honor with funeral rites, to bury'; Armenian *damban*, *dambaran* 'grave, tomb'.

Northwest Caucasian: Common Abkhaz **damrá*: Bzyp *a-dəmrá* ‘grave’; South Abkhaz *a-damrá* ‘grave’; Abaza/Tapanta *damrá* ‘grave’ (only in a proverb).

28. Proto-Indo-European **gʰeʔ-/*gʰoʔ-* (> **gʰē-/*gʰō-*), **gʰeʔ-y/i-/*gʰoʔ-y/i-* (> **gʰēy-/*gʰōy-*; **gʰei-/*gʰoi-*) ‘to go, to leave, to depart; to abandon, to forsake’ (**ʔ* = **ə̥*$_1$): Sanskrit (reduplicated) *já-hā-ti* ‘to leave, to abandon, to desert, to quit, to forsake, to relinquish’, (causative) *hāpayati* ‘to cause to leave or abandon; to omit, to neglect; to fall short of, to be wanting’, *hāni-ḥ* ‘abandonment, relinquishment, decrease, diminution; deprivation; damage, loss, failure, ruin; insufficiency, deficit’; Greek (Homeric) (reduplicated) κιχᾱ́νω, (Attic) κιγχάνω ‘to reach, hit, or light upon; to meet with, to find; (Homeric) to overtake, to reach, to arrive at’, χῆρα (Ionic χήρη) ‘bereft of husband, widow’, χῆρος ‘widowed, bereaved’, χώρα ‘the space in which a thing is’, χωρέω ‘to make room for another, to give way, to draw back, to retire, to withdraw; to go forward, to move on or along’, χῶρος ‘piece of ground, ground, place’, (adv.) χωρίς ‘separately, asunder, apart, by oneself or by themselves’, (dat.) χήτει ‘in lack of’, χατέω ‘to crave, to long for, to have need of, to lack’, χατίζω ‘to have need of, to crave; to lack, to be without’, χατίζων ‘a needy, poor person’; Latin *hērēs* ‘heir’; Gothic *gaidw* ‘lack’; Crimean Gothic *geen* ‘to go’; Swedish *gå* ‘to go’; Danish *gaa* ‘to go’; Old English *gān* ‘to go, to come, to proceed’, *gād* ‘want, lack’; Old Frisian *gān*, *gēn* ‘to go’; Old Saxon *-gān* in *ful-gān* ‘to accomplish’; Middle Dutch *gaen* ‘to go’; Old High German *gān* ‘to go’.

    Northwest Caucasian: Proto-Circassian **ga* ‘bad, insufficient, lacking’: Bžedux *-ʒ'a* ‘bad, insufficient, lacking’; Kabardian *-ga* ‘bad, insufficient, lacking’. Common Abkhaz **gə*: South Abkhaz *á-g-x̌a-ra* ‘to lose flesh (tr.), to be late (intr.); to lack something’, *a-g-rá* ‘defect, lack of something’; Abaza/Tapanta *g-x̌a-ra* ‘to lack’.

29. Proto-Indo-European **gʰer-/*gʰor-/*gʰr̥-* ‘to scatter, to strew’: Lithuanian *žyrù*, *žìrstu*, *žìrti* ‘to scatter, to strew’, *išžìrti* ‘to disperse, to scatter, to spread about’. Note: Confused with words meaning ‘to glow, to sparkle, to glitter, etc.’

    Northwest Caucasian: Common Abkhaz **ɣra*: South Abkhaz *á-ɣra* ‘speckled, spotted’; Abaza/Tapanta *ɣra* ‘speckled, spotted’.

30. Proto-Indo-European **gʰer-/*gʰor-/*gʰr̥-* ‘to growl, to wail, to weep, to cry (out)’ (onomatopoeic): Sanskrit *hrādate* ‘to sound’; Latin *hirriō* ‘to growl’; Armenian *ger* ‘to wail’; Gothic *grētan* ‘to weep, to lament’, *grēts* ‘weeping’; Old Icelandic *gráta* ‘to weep, to bewail’, *grátr* ‘weeping’; Swedish *gråta* ‘to weep’, *gråt* ‘weeping’; Old Saxon *grātan* ‘to weep’; Middle High German *grazen* ‘to cry out, to rage, to storm’.

    Northwest Caucasian: Common Abkhaz (reduplicated) **ɣ'arə-ɣ'arə* (onomato-poeic): South Abkhaz *a-ɣ'ar-ɣ'ár-ra* ‘to rattle, to jingle; sound of beating or striking (against something)’, *a-ɣ'ar-ɣ'ár* ‘rattle, clapper’; Abaza/Tapanta *ɣ'ar-ɣ'ár* ‘rattle, clapper; description of the sound produced by moving transport’.

31. Proto-Indo-European **gʰerH-/*gʰorH-/*gʰr̥H-* ‘to shake, to move to and fro’, **gʰr̥H-no-s* ‘shaking, moving to and fro’: Sanskrit *ghūrṇá-ḥ* ‘shaking, moving to and fro’, *ghūrṇáti*, *ghū́rṇate* ‘to move to and fro, to shake, to be agitated, to tremble, to roll about, to cause to whirl, to whirl, to turn around’.

    Northwest Caucasian: Common Abkhaz **gára*: Bzyp *a-gár* ‘cradle’, *á-gar-čar-ra* ‘to shake’; Abzhywa *a-gára* ‘cradle’; South Abkhaz *a-garə́-gača-ra* ‘to waddle’; Abaza/Tapanta *gára* ‘cradle’. Common Abkhaz **gərə́*: South Abkhaz *á-gər-t’ᵒ*, *á-gər-k’ᵒ(ə)t’a* ‘epilepsy’, *a-gər-ʒá-t’ᵒ* ‘sacrifice offered during prayer against migraine’ (*ʒá-t’ᵒ* ‘sacrifice’), *a-gər-ʒ-nə́ħᵒa* ‘prayer against headache, nose bleeding, etc.’ Common Abkhaz (reduplicated) **gərə-gərə́*: South Abkhaz *a-gərgər-ra* ‘to waddle’.

32. Proto-Indo-European *_g^{h}ey-_ 'snow, ice, winter': Albanian (Gheg) _dimën_, (Tosk) _dimër_ 'winter'; Hittite (nom. sg.) _gi-im-ma-an-za_ 'winter'; Armenian _jmeṙn_ 'winter'; Greek χιών 'snow; snow-water, ice-cold water', χεῖμα 'winter-weather, cold, frost', χειμών 'winter; wintry weather, a winter storm'; Sanskrit _himá-ḥ_ 'snow, frost, hoar-frost, winter', _hemantá-ḥ_ 'winter, the cold season'.

    Northwest Caucasian: Proto-Circassian *_gəya_ 'smooth (of ice)': Kabardian _məl-gay_ 'smooth (of ice)' (_məl_ 'ice').

33. Proto-Indo-European *_g^{h}i-_ enclitic particle of unknown meaning: Sanskrit _hí_ enclitic particle: 'for, because, on account of; assuredly, certainly; indeed'; Greek -χι in: οὐ-χί, μή-χι 'not', ναί-χι 'yea, verily; aye, yes'.

    Northwest Caucasian: Common Abkhaz *_-g'ə_: Abkhaz _-g'ə_ 'and, even, too', as in _wə́j-g'ə_ 'he/she too'.

34. Proto-Indo-European (extended form) *_g^{h}l-ey-_/*_g^{h}l-oy-_/*_g^{h}l-i-_ 'to glide, to slip, to slide; to be unstable, to totter': Swedish _glinta_ 'to glide, to slip'; Old English _glīdan_ 'to glide, to slip; to glide away, to vanish', _glidder_ 'slippery', _gliddrian_ 'to slip, to be unstable', _glīd_ 'slippery, ready to slide; tottering'; Old Frisian _glīda_ 'to glide'; Old Saxon _glīdan_ 'to glide'; Dutch _glijden_ 'to glide'; Old High German _glītan_ 'to glide, to slip'.

    Northwest Caucasian: Proto-Circassian *_g'al(a)_ 'to slip, to (slip and) fall': Bžedux _ʒ'āla_ 'to slip, to (slip and) fall'; Kabardian _gala_ 'to slip, to (slip and) fall'. Common Abkhaz *_g'alá_: South Abkhaz _á-g'ala-ra_ 'to swing, to reel, to stagger; to gad about'; Ashkharywa _g'ála-ra_ 'to idle, to loaf'. Common Abkhaz (reduplicated) *_g'alá-g'alá_: South Abkhaz _a-g'alg'ala-rá_ 'to dangle'. Common Abkhaz *_g'al-də́źə_: Bzyp _a-g'aldə́ź_ 'idle, lounger; awkward, clumsy'; South Abkhaz _á-g'aldəz-ra_ 'to idle, to loaf; to droop, to dangle (of something heavy)'.

35. Proto-Indo-European *_g^{h}er-_ 'hail' (unattested): (extended form) *_g^{h}r-eH-t'-_ 'hail': Old Church Slavic _gradъ_ 'hail'; Czech (nom. pl.) _hrady_ 'thundercloud'; Polish _grad_ 'hail'; Russian _grad_ [град] 'hail'; Serbo-Croatian _grȁd_ 'hail'; Bulgarian _grad_ 'hail'; (?) Sanskrit _hrādúni-ḥ_ 'hail(-stone)'.

    Northwest Caucasian: Common Abkhaz *_ɣər-ʒə́_: South Abkhaz _á-ɣər-ʒ_ 'drizzle, drizzling rain' (*_ʒə_ 'water'), _á-la-ʒər-ʒ_ 'tear' (*_la_ 'eye'); Abaza/ Tapanta _ɣər-ʒə́_ 'drizzle, drizzling rain', _ɣər-ʒ-ra_ 'to drizzle'.

36. Proto-Indo-European *_g^{wh}erH-_/*_g^{wh}orH-_/*_g^{wh}r̥H-_ 'to turn around, to revolve, to roll; to move to and fro' (only in Indo-Aryan): Sanskrit _ghūrṇáti_, _ghū́rṇate_ 'to move to and fro, to shake, to be agitated, to tremble; to roll about, to cause to whirl, to turn around', _ghūrṇita-ḥ_ 'rolling, turning, tossing', _ghūrṇamāna-ḥ_ 'being agitated, shaking, trembling; revolving, turning around'; Prakrit _ghulaï_ 'to turn', _ghaṁghōra-_ 'constantly turning', _ghummaï_ 'to turn around'.

    Northwest Caucasian: Common Abkhaz (reduplicated) *_g^{o}ər-g^{o}ə́r/lə_ 'round object' (> 'wheel, hoop; ring; etc.'): Abaza/Tapanta _g^{o}ərg^{o}ə́r_ 'ring (of chain, chain armor, etc.); small metal wheel'; South Abkhaz _a-g^{o}ərg^{o}ə́l_ 'wheel, hoop', _a-g^{o}ərg^{o}əl mać^{o}əz_ 'wedding-ring'.

37. Proto-Indo-European *_g^{wh}or-o-_ 'open area set aside as a public space' (only in Italic): Latin _forum_ 'an open square, marketplace, public space'; Umbrian (acc. sg.) _furo_, **furu** 'forum'. Note: Latin _forum_ is usually (though not always) derived from Proto-Indo-European *_d^{h}wŏ̄r-_ 'door' (cf. Latin _foris_ 'door'). However, the semantic development required to get from 'door' to _forum_ seems rather contrived.

    Northwest Caucasian: Common Abkhaz *_g^{o}ára_: Bzyp _a-g^{o}ár(a)_ 'yard'; Abzhywa _a-g^{o}ára_ 'yard; cattle-yard; fence'; Ashkharywa (Apsua) _a-g^{o}ára_ 'wattled fence'; Abaza/Tapanta _g^{o}ára_ 'fence'. Common Abkhaz *_g^{o}ár-pə_ (< *_g^{o}ára_ 'court, yard', *_pə_ 'nose' > 'front; before'): South Abkhaz _a-g^{o}árp_ 'part of big yard around the house'.

38. Proto-Indo-European *_g^{wh}r̥-k^{h}-_ ‘round, pointed object’ (only in Latin): Latin _furca_ ‘a two-pronged fork, pitchfork; any forked-shaped object; a two-pronged instrument of torture used to punish criminals — it was put over the neck, and the arms were tied to the two ends’, _furcifer_ ‘one who is forced to wear the _furca_ as punishment’, _furcula_ ‘a forked-shaped prop’, _furcilla_ ‘a little fork or pitchfork’.

    Northwest Caucasian: Common Abkhaz *_g^{o}ərə_: South Abkhaz _a-g^{o}ə́r_ ‘needle’; Abaza/Tapanta _g^{o}rə_ ‘needle’. Perhaps also Proto-Circassian *_g^{o}ərğə_ ‘kingpin’: Temirgoy _g^{o}ərğə_ ‘kingpin of a cart’; Kabardian _g^{o}ərəğ_ ‘kingpin of a cart’.

39. Proto-Indo-European *_g^{wh}rem-_/*_g^{wh}rom-_/*_g^{wh}rm̥-_ ‘to roar, to growl, to howl, to rage’: Latin _fremō_ ‘to roar, to murmur, to growl, to rage, to snort, to howl’; Old English _grimman_ ‘to rage, to fret, to roar, to cry out, to grunt’; Old Saxon _grimman_ ‘to rage’; Old High German _grimmen_ ‘to rage, to yell’. Note: The Latin form could be from Proto-Indo-European *_b^{h}rem-_/*_b^{h}rom-_/*_b^{h}rm̥-_ ‘to roar, to growl, to howl’ instead (derivative of *_b^{h}er-_/*_b^{h}or-_/*_b^{h}r̥-_ ‘to make a sound, to hum, to buzz, to mutter’ listed above).

    Northwest Caucasian: Common Abkhaz *_g^{o}(ə)rə́mə_: South Abkhaz _a-g^{o}rə́m-ra_ ‘to grumble, to mumble’; Abaza/Tapanta _g^{o}rəm_ ‘moan, groan’, _g^{o}rəm-ra_ ‘to moan, to groan; to moo, to bellow (of animals)’.

40. Proto-Indo-European *_hel-_ [*_hal-_] ‘alder’ (*_h_ = *_ə̭$_4$_): Latin _alnus_ (< Proto-Italic *_alsno-_) ‘alder’; Old Icelandic _ölr_ ‘alder-tree’; Old English _alor_ ‘alder’; Old High German _elira_ ‘alder’; Russian _ol'xá_ [ольха] ‘alder(-tree)’; Lithuanian _al̃ksnis_, _el̃ksnis_, (dial.) _aliksnis_ ‘alder’.

    Northwest Caucasian: Common Abkhaz *_alə́_: Abaza/Tapanta _al-č’^{o}ə́_, _al-č’ə́_, (indef. sg.) _al-č’ə́-k’_ ‘alder(-tree)’; South Abkhaz _ál(-c’la)_ ‘alder(-tree)’; Ashkharywa _al-t’a_ ‘alder(-tree)’ ; Bzyp (indef. sg.) _l-k’ə́ // lə́-k’_ ‘alder(-tree)’.

41. Proto-Indo-European *_hep^{h}-_ [*_hap^{h}-_]/*_hop^{h}-_ ‘to embark upon, to undertake, to start doing something’ (*_h_ = *_ə̭$_4$_): Old Icelandic _efna_ (< Proto-Germanic *_aƀnjanan_) ‘to perform, to fulfill’, _efni_ ‘material, stuff’; Old English _efnan_ ‘to carry out, to perform, to fulfill’, _efne_ ‘material’; Old High German _uoben_ ‘to start to work, to practice, to worship’; Sanskrit _ápas-_ ‘work, action; sacred act, sacrificial act’, _ā́pas-_ ‘religious ceremony’, _ápnas-_ ‘work, sacrificial act’; Latin _opus_ ‘work’.

    Notes:

    1. The material from the daughter languages pointing to a Proto-Indo-European root meaning ‘wealth, riches’, though often compared with the above forms, appears to belong to a different root: *_Ḫop^{h}-_ (*_Ḫ_ = a laryngeal preserved in Hittite, most likely *_ə̭$_3$_ here [cf. Hittite (adj.) _ḫappina-_ ‘rich’; Latin _ops_ ‘wealth, power’, _opulentus_ ‘rich, wealthy; powerful, mighty’; Sanskrit _ápnas-_ ‘possession, property’ (same form as given above, but with a different meaning); Avestan _afnah-vant-_ ‘rich in property’]) (cf. Kloekhorst 2008b:296—297; Mayrhofer 1986—2001.I:88; De Vaan 2008:431).
    2. Greek ἄφενος ‘riches, wealth, plenty’ is best explained as a borrowing.

    Northwest Caucasian: Common Abkhaz *_ápš'ə/a-_: Abzhywa _ápš'-ga-ra_ ‘to venture, to undertake, to start doing something’; Bzyp _ápš'a-ga-ra_ ‘to venture, to undertake, to start doing something; to decide, to resolve’ (~ *_ga_ ‘to bring, to carry’).

42. Proto-Indo-European *_hep^{h}-elo-_ [*_hap^{h}-elo-_] ‘strength, power’ (*_h_ = *_ə̭$_4$_): Greek (Hesych.) (*ἄπελος ‘strength’ >) ἀν-απελάσας· ἀναρρωσθείς ‘weak-ness’; Old Icelandic _afl_ ‘strength, power, might’, _efla_ ‘to strengthen’, _efling_ ‘growth, increase in strength and wealth’; Faroese _alv_, _alvi_ ‘strength, power’; Norwegian (dial.) _avl_ ‘physical strength’; Swedish _avel_ ‘strength’; Old English _afol_ ‘power, might’; Old Saxon _aƀal_ ‘power’.

Northwest Caucasian: Common Abkhaz **ápš'ə* 'big, strong, powerful': South Abkhaz *abax̌ᵒ-apš'* 'the strong rock', *azaar(*a)-apš'* 'terrible anger', *a-k'aamet-apš'* 'horror, doomsday', *agaʒ(*a)-apš'* 'bally idiot', *adaw(*ə)-apš'* 'monstrous giant', *á-mat-apš'* 'a very venomous snake'; Abaza/Tapanta *q'abard-ápš'/q'abárd-apš'* 'the Great Kabarda'.

43. Proto-Indo-European (extended form) **hepʰ-s-* [**hapʰ-s-*]/**hopʰ-s-* (vb.) 'to cut, to split'; (n.) 'that which cuts, splits' (> 'sword' in Tocharian B); 'cut, split' (> 'harm, injury; damage' in Avestan) (**h* = *ə̥$_4$): Tocharian B *apsāl* 'sword'; Avestan *afša-*, *afšman-* 'harm, injury; damage'.

    Notes:
    1. The following forms have also been compared with the above: Lithuanian *opà* 'wound, sore', *opùs*, *ópus* 'sensitive, susceptible to pain'; Sanskrit *apvā́* 'name of a disease'.
    2. According to Eric P. Hamp (1965a), the laryngeal *ə̥$_4$ is preserved initially in Albanian. If this is indeed the case, as Hamp claims, then Albanian *hap* 'to open' may be a derivative of the unextended Proto-Indo-European verb **hepʰ-* [**hapʰ-*]/**hopʰ-* (vb.) 'to cut, to split', though this is not the etymology suggested by Hamp (1965a:125).

    Northwest Caucasian: Common Abkhaz **ápśa*: Bzyp *ápśa* 'bayonet, spear, lance', (possessive) *s- ápśa* 'my bayonet'; Abzhywa *ápsa* 'bayonet, spear, lance'; Abaza/Tapanta *ħᵒ-aps* 'bayonet'. Note: The following alternative forms are also recorded: Bzyp *abś*; Abzhywa *absá*.

44. Proto-Indo-European **hew-* [**haw-*] 'and, but, also' (**h* = *ə̥$_4$): Gothic *auk* 'but, also'; Old English *ēac* 'and, also'; Latin *aut* 'either…or', *au-tem* 'but, on the other hand, indeed'; Oscan *aut* 'but, or'; Greek αὖ 'again, on the contrary'.

    Northwest Caucasian: Proto-Circassian **hawa* 'but': Kabardian *hawa* 'but'.

45. Proto-Indo-European **hey-* [**hay-*] 'to give, to divide, to distribute' (**h* = *ə̥$_4$): Hittite (3rd pres. sg.) *pa-a-i* 'to give' (< **pe-+ai-*); Tocharian A (inf.) *essi*, B (inf.) *aitsi* 'to give'; Greek (poet.) αἴνυμαι 'to take'. Proto-Indo-European **hey-tʰo-* [**hay-tʰo-*], **hey-tʰi-* [**hay-tʰi-*] 'part, portion, share' (**h* = *ə̥$_4$): Avestan *aēta-* 'the appropriate part'; Greek αἶσα (< *αἰτι̯α) 'a share in a thing; one's lot, destiny; the decree, dispensation of a god'; Oscan (gen. sg.) *aeteis* 'part'.

    Northwest Caucasian: Common Abkhaz **aj-g(')-ʒá*: Bzyp *áj-g-ʒa-ra* 'to share, to be stingy'; Abaza/Tapanta *aj-g'-ʒa-ra* 'to share, to be stingy'.

46. Proto-Indo-European **hey-kʷʰ-o-* [**hay-kʷʰ-o-*] 'equal' (**h* = *ə̥$_4$) (only in Latin): Latin *aequus* 'equal in itself, even, plain, level, flat', *aequē* (adv.) 'equally, in like manner, just as, in an equal degree, to the same extent', *aequō* 'to make equal, to equalize'.

    Northwest Caucasian: Common Abkhaz **aj-pšə́* (< **aj-* 'together', **pšə* 'to look'): South Abkhaz *ajpš* 'like, as, similar'; Ashkharywa *ajpš-nə* 'like, as, similar'.

47. Proto-Indo-European **heyos-* [**hayos-*] 'metal' (**h* = *ə̥$_4$): Sanskrit *áyas-* 'metal, iron'; Latin *aes* 'crude, base metal, especially copper', *aēneus* 'made of brass, copper, or bronze'; Gothic *aiz* 'brass, money, metal coin'; Old Icelandic *eir* 'brass, copper'; Old English *ār* 'brass, copper'; Old Saxon *ēr* 'ore'; Dutch *oer* 'bog-ore', *erts* 'ore'; Old High German *ēr* 'ore, copper'.

    Northwest Caucasian: Common Abkhaz **ajx̌á*: South Abkhaz *ajx̌á* 'iron; axe; bit (of a horse)'; Abaza/Tapanta *ajx̌á* 'iron; metal'; Ashkharywa *ájx̌a* 'iron'. Note also: South Abkhaz *ajgᵒə́šᵒ* 'small axe'; Abaza/Tapanta *gᵒašᵒ* 'small axe', *k'ᵒaɣa* 'small axe'; Bzyp *ajk'ᵒáɣ(a)* 'small axe'; Abzhywa *ajk'ᵒáɣa* 'small axe'.

48. Proto-Indo-European *_ħ͜hemH-_ [*_ħ͜hamH-_] ‘to cut, to mow’ (*_ħ͜h_ = *_ə̮_$_{2}$): Hittite _ḫamešḫa-_ ‘spring (season)’; Greek ἀμάω ‘to cut, to mow, to reap’, ἄμητος ‘reaping, harvesting; harvest, harvest-time’; Old English _māwan_ ‘to mow’Old Frisian _mēa_ ‘to mow’; Old High German _māen_ ‘to mow, to cut, to reap’.

Northwest Caucasian: Proto-Circassian *_ħam(a)_ ‘threshing-floor’: Bžedux _ħāma_ ‘threshing-floor’; Kabardian _ħam_ ‘threshing-floor’.

49. Proto-Indo-European *_ħ͜hweʔ-y-_/*_ħ͜hwoʔ-y-_ ‘(vb.) to blow; (n.) wind’ (*_ħ͜h_ = *_ə̮_$_{2}$; *_ʔ_ = *_ə̮_$_{1}$): Sanskrit _vā́ti_ ‘to blow (of wind)’, _vā́ta-ḥ_ ‘wind, wind-god’, _vāyúṣ-_ ‘wind, wind-god’; Gothic *_waian_ ‘to blow (of wind)’, _winds_ ‘wind’; Old English _wāwan_ ‘to blow (of wind)’; Old High German _wāen_ ‘to blow (of wind)’; Lithuanian _vė̃jas_ ‘wind’, _vė́tra_ ‘storm, stormy weather’; Old Church Slavic _vějǫ_, _vějati_ ‘to blow’, _větrъ_ ‘storm’; Russian _véjat'_ [веять] ‘to winnow, to blow’, _véter_ [ветер] ‘wind’; Hittite _ḫuwant-_ ‘wind’; Greek ἄ(Ϝ)ησι ‘to blow (of wind)’; Latin _ventus_ ‘wind’; Welsh _gwynt_ ‘wind’; Tocharian A _want_ ~ _wänt_, B _yente_ ‘wind’.

Northwest Caucasian: Proto-Circassian *_waya_ ‘bad weather’: Bžedux _wāya_ ‘bad weather (snow, rain, storm, cold)’; Kabardian _wāya_ ‘bad weather (snow, rain, storm, cold)’. Circassian loans in: Abzhywa _a-wája_ ‘bad weather, storm’; Abaza/Tapanta _wája_ ‘bad weather, storm’. Note: This appears to be a later borrowing.

50. Proto-Indo-European *_k^{h}amero-_ (> Greek *_kamaro-_; Balto-Slavic *_kemero-_) ‘name of a (poisonous) plant’: Greek κάμαρος ‘larkspur (_Del-phinium_)’, κάμ(μ)αρον ‘aconite’; Old High German _hemera_ (< *_χamirō_) ‘hellebore’; Lithuanian _kẽmeras_ ‘hemp agrimony, burr marigold’; Russian Church Slavic _čemerь_ ‘hellebore’; Russian _čemeríca_ [чемерица] ‘hellebore’.

Northwest Caucasian: Common Abkhaz *_kámp'ərə_: South Abkhaz _a-kámp'ər_ ‘a kind of umbellate plant with white floscule’.

Note: Probably borrowed by both Proto-Indo-European and Northwest Caucasian from an unknown source.

51. Proto-Indo-European *_k^{h}at^{h}-_ ‘rag, tatter’ (only in Germanic): Old High German _hadara_ ‘patch, rag’; Middle High German _hader_, also _hadel_, ‘rag, tatter’; Old Saxon _hađilīn_ ‘rag, tatter’.

Northwest Caucasian: Proto-Circassian *_k^{h}aTx̌a_ ‘to tear to shreds (tr.)’: Temirgoy _č'atx̌a-n_ ‘to tear to shreds (tr.)’; Kabardian _kātx̌a_ ‘to tear to shreds (tr.)’.

52. Proto-Indo-European *_k^{h}at^{h}-_ ‘to fight’: Sanskrit _śátru-ḥ_ ‘enemy, foe, rival’; Old Irish _cath_ ‘battle’; Welsh _cad_ ‘war’; Old Icelandic (in compounds) _höð-_ ‘war, slaughter’; Old English (in compounds) _heaðu-_ ‘war, battle’; Old High German (in compounds) _hadu-_ ‘fight, battle’; Old Church Slavic _kotora_ ‘battle’; Hittite _kattu-_ ‘enmity, strife’.

Northwest Caucasian: Proto-Circassian *_k:at^{h}a_ ‘sword’: Šapsegh _k:āt^{h}a_ ‘sword’; Kabardian _gāta_ ‘sword’.

53. Proto-Indo-European *_k^{h}ay-wr̥-t^{h}_, *_k^{h}ay-wn̥-t^{h}_ ‘cave, hollow’: Greek καιάδᾱς ‘pit or underground cavern’, καιετός ‘fissure produced by an earthquake’; Sanskrit _kévaṭa-ḥ_ ‘cave, hollow’.

Northwest Caucasian: Proto-Circassian *_k^{h}əya_ or *_k^{h}ayə_ ‘tub’: Bžedux _č^{h}'əya_ ‘tub’; Kabardian _kay_ ‘tub’.

54. Proto-Indo-European *_k^{h}eAk^{h}A-_ [*_k^{h}aAk^{h}A-_] (> *_k^{h}āk^{h}A-_) ‘branch, twig’: Sanskrit _śā́khā_ ‘branch’; Armenian _c^{h}ax_ ‘twig’; Albanian _thekë_ ‘fringe’; Gothic _hōha_ ‘plow’; Lithuanian _šakà_ ‘branch, bough,

twig'; Russian *soxá* [coxa] '(wooden) plow'; Polish *socha* 'two-pronged fork'; Serbo-Croatian *sòha* 'forked stick'.

Notes:

1. This is probably a reduplicated stem: **kʰeA-kʰeA-*.
2. The Slavic forms may be borrowings.

Northwest Caucasian: Proto-Circassian **kʰə* 'brushwood, twig': Bžedux *čʰ'ə* 'brushwood, twig'; Kabardian *kə* 'brushwood, twig'. Common Abkhaz **káka*: South Abkhaz *a-káka* 'grown thick, bushed out (of plants)', *-káka-ʒa* 'thickly, simultaneously going up (of plants, hair)'. Note: There are numerous derivatives in both Circassian and Abkhaz-Abaza. Only the forms closest to what is found in Indo-European are given above.

55. Proto-Indo-European **kʰem-* 'lacking horns, hornless': Sanskrit *śáma-ḥ* 'hornless'; Greek κεμάς 'a young deer'; Lithuanian (Žem.) *šmùlas* 'hornless'; Old Icelandic *hind* 'a hind, a female deer'; Old English *hind* 'a hind, a female deer'; Old High German *hinta* 'a hind, a female deer'.

    Northwest Caucasian: Proto-Circassian **kʰamə* 'to be insufficient, to lack': Kabardian *kam* 'to be insufficient, to lack', *mə-kamə-w* 'uninterruptedly' (*mə-* = negative element', *-w* = modal case).

56. Proto-Indo-European **kʰem-*/**kʰom-* 'to cover, to conceal': Sanskrit *śāmulyà-ḥ* (Vedic *śāmūla-ḥ*) 'thick woolen shirt'; Latin *camīsia* 'linen shirt or night-gown' (Gaulish loan ?); Gothic *-hamōn* in: *ana-hamōn*, *ga-hamōn* 'to get dressed', *af-hamōn* 'to get undressed', *ufar-hamōn* 'to put on'; Old Icelandic *hamr* 'skin, slough; shape, form', *hams* 'snake's slough, husk'; Old English *hemeþ* 'shirt', *ham* 'undergarment', *-hama* 'covering' (only in compounds), *hemming* 'shoe of undressed leather'; Old Frisian *hemethe* 'shirt'; Dutch *hemd* 'shirt'; Old High German *hemidi* 'shirt', *-hamo* 'covering' (in compounds).

    Northwest Caucasian: Common Abkhaz **qamə*: Bzyp *a-x̱̌amə́* 'fur coat'; Abzhywa *a-x̌amə́* 'fur coat'; Abaza/Tapanta *qamə́* 'fur coat'.

57. Proto-Indo-European **kʰer-*/**kʰor-*/**kʰr̥-* 'to make a rasping sound, to be hoarse; to creak, to croak': Greek κρώζω 'to cry like a crow, to caw; (of a wagon) to creak, to groan'; Latin *crōciō* 'to caw like a crow'; Old English *hrace*, *hracu* 'throat'; Middle Low German *rake* 'throat'; Old High German *rahho* (**hrahho*) 'jaws, mouth (of beast); throat, cavity of mouth', *rāhhisōn* 'to clear one's throat'; Lithuanian *krokiù*, *krõkti* 'to grunt'.

    Northwest Caucasian: Common Abkhaz (reduplicated) **qər-qər*: Bzyp *á-x̱̌ərx̱̌ər-ħa* 'snore, snoring'.

58. Proto-Indo-European **kʰetʰ-*/**kʰotʰ-* 'enclosed area, covered area': Old English *heaðor* 'restraint, confinement', *heaðorian* 'to shut in, to restrain, to confine'; Old Church Slavic *kotьcь* 'cage'; Old Czech *kot* 'booth, stall (market)'; Serbo-Croatian (dial.) *kôt* 'sty for domestic animals, young animals', *kòtac* 'cattle-shed, weir'; Slovenian *kótəc* 'compartment of a stable, pig-sty, bird-cage'. Perhaps also Avestan *kata-* 'room, house'; Late Avestan *kata-* 'storage room, cellar'; Khotan Saka *kata-* 'covered place, house'; Farsi *kad* 'house'; Sogdian *kt'ky* 'house'; Pashto *kəlai* 'village' (*-l-* < *-t-*), *čat* 'roof'.

    Northwest Caucasian: Proto-Circassian **kʰ'atʰə* 'sheep-shed': Bžedux *čʰ'atʰə* 'sheep-shed'; Kabardian *kat* 'sheep-shed'. Common Abkhaz **kə́ta*: South Abkhaz *a-kə́ta* 'village'; Ashkharywa *a-kə́t* 'village'; Abaza/Tapanta *kə́t* 'village'.

59. Proto-Indo-European **kʰl̥H-* 'hut' (only in Greek): Greek καλύβη 'a hut, cabin, cell; screen, cover', καλιά (Ionic καλιή) 'a wooden dwelling, a hut', καλῑός 'a cabin, cot', καλιάς 'a hut'. Note: Some scholars have suggested that the Greek forms cited above are to be derived from the same root found in καλύπτω 'to cover with (a thing); to cover or conceal; to cover over', while others reject this view.

Northwest Caucasian: Proto-Circassian _*k^{h}(a)lə_ ‘hut’: Temirgoy _č'(a)lə_ ‘hut’; Kabardian _kəl_ ‘hut’. Common Abkhaz _*k'ála_: Bzyp _a-k'al_ ‘hut’; Ashkharywa _k'ála_ ‘hut’; Abzhywa _a-k'ála_ ‘hut’; Abaza/Tapanta _k'ála_ ‘hut’.

60. Proto-Indo-European _*k^{h}m̥H-_ ‘to work, to toil, to labor’: Sanskrit _śā́myati_ ‘to toil at, to exert oneself; to grow calm, to pacify’ (originally ‘to be tired’), (participle) _śān-tá-ḥ_ ‘calmed, pacified, stilled’; Greek κάμνω ‘to work, to labor, to toil, to be weary’.

    Northwest Caucasian: Common Abkhaz _*kamsá_: South Abkhaz _a-kamsa-rá_ ‘to work as a (farm-)laborer; to dance (awkwardly, clusily)’.

61. Proto-Indo-European _*k^{wh}et^{h}-_ in _*k^{wh}et^{h}-wer-_ ‘four’, assuming semantic development as follows: _*k^{wh}et^{h}-_ ‘to cut into (equal) parts’ > _*k^{wh}et^{h}-wer-_ ‘having equal sides’ > ‘square, four-sided’ > ‘four’ (cf. Sanskrit _catvará-m_ ‘square, cross-roads’, thematic extension of a neuter noun _*cátvar_, which has not been preserved; also Latin _-quetrus_ in _triquetrus_ ‘three-cornered, triangular’ and _quadra_ [with _-dr-_ from _-tr-_] ‘a square’). Though this etymology is highly speculative, it is not impossible. Clearly, the word for ‘four’ in the Proto-Indo-European ancestor of the non-Anatolian daughter languages is a fairly late creation. The Anatolian languages have an entirely different word for the number ‘four’: Hittite _me(y)u-_ ‘four’; Hieroglyphic Luwian _mawa-_ ‘four’; Cuneiform Luwian _ma-a-u-wa-_ ‘four’; Lycian _*mu-_ in _mupm̃m-_ ‘four-fold’.

    Northwest Caucasian: Proto-Circassian _*q:^{o}ət^{h}a_ ‘to smash, to break, to chop’: Bžedux _q:^{o}ət^{h}a_ ‘to smash, to break, to chop’; Kabardian _q’^{o}əta_ ‘to smash, to break, to chop’.

62. Proto-Indo-European _*-k’e_ particle of unknown meaning: Greek γε, γα enclitic particle, serving to call attention to the word or words which it follows, by limiting or strengthening the sense; Gothic _-k_ in (acc. sg,) _mik_ (< _*me+k’e_) ‘me’, (acc. sg.) _þuk_ (< _*t^{h}u+k’e_) ‘you’; Hittite (acc. sg.) _am-mu-uk_ ‘me’, (acc. sg.) _tu-uk_ ‘you’.

    Northwest Caucasian: Common Abkhaz _*q’a_ directional postposition in, for example, _*a-q’a_: South Abkhaz _áq’a-ra_ ‘this much, about (of size, quantity)’, _z-aq’á_ ‘how much (relative and interrogative)’; Abaza/Tapanta _áʔa-ra_ ‘this much, about (of size, quantity)’, _z-ʔa-rá(-ha)_ ‘how much (relative and interrogative)’; Ashkharywa _áq’a-ra_ ‘this much, about (of size, quantity)’.

63 Proto-Indo-European _*k’eb^{h}-_ ‘bough, branch, stick’: Lithuanian _žãbas_ ‘(long) switch, dry branch’, _žabà_ ‘rod, switch, wand’; Old Icelandic _kafli_ ‘a piece cut off’, _kefli_ ‘a cylinder, stick, piece of wood’; Middle Dutch _cavele_ ‘stick, piece of wood used to throw lots’; Middle High German _kabel_ ‘lot’.

Northwest Caucasian: Common Abkhaz _*q’'aba_: Abaza/Tapanta _q’'aba_ ‘plow-share’.

64. Proto-Indo-European _*k’el-/*k’ol-/*k’l-_ ‘to cleave, to split’ (extended form: _*k’l-ew-b^{h}-/*k’l-ow-b^{h}-/*k’l-u-b^{h}-_ ‘to cleave, to split’): Proto-Germanic _*kleuƀanan_ ‘to cleave, to split’ > Old Icelandic _kliúfa_ ‘to cleave, to split’; Old English _clēofan_ ‘to cleave, to split’; Old High German _klioban_ ‘to cleave, to split’. Proto-Germanic _*kluƀōn_ ‘cleft, rift’ > Old Icelandic _klofi_ ‘cleft, rift’; Old Frisian _klova_ ‘chasm’; Old High German _klobo_ ‘snare, trap’. Greek γλύφω ‘to carve, to cut out with a knife; to engrave’; Latin _glūbō_ ‘to remove bark from a tree, to peel away bark’.

    Northwest Caucasian: Common Abkhaz _*k’alə_: Abzhywa _a-k’ál-ra_ ‘to cleave, to split squared timber for making shingle’.

65. Proto-Indo-European _*k’el-/*k’ol-/*k’l̥-_ ‘hole, hollow’ (unattested): (extended forms) _*k’leb^{h}-/*k’lob^{h}-/*k’l̥b^{h}-_; _*k’lomb^{h}-_ (in Slavic) ‘hole, hollow’ (> ‘deep’ in Slavic): Greek γλάφω ‘to scrape up, to dig up, to hollow’, γλάφυ ‘a hollow, hole, cavern’, γλαφυρός ‘hollow, hollowed’; Old Church Slavic

glǫbokъ 'deep'; Slovenian _globòk_ 'deep', _globíti_ 'to excavate', _glóbsti_ 'to excavate, to carve'; Bulgarian _glob_ 'eye socket'; Russian _glubókij_ [глубокий] 'deep'.

Northwest Caucasian: Common Abkhaz *_k'ə́la-ć'ᵒə_ (< *_k'əla_ 'hole', *_ć'ᵒə_ 'sharpened twig'): Bzyp _a-k'ə́lać'ᵒ_ 'wooden hook for hanging clothes; plug, spigot in the middle of the yoke'; Abzhywa _a-k'lać'ᵒə́_ 'wooden hook for hanging clothes; plug, spigot in the middle of the yoke'. Common Abkhaz *_k'ə́la-ħa-ra_: South Abkhaz _a-k'ə́lħa-ra//a-k'ə́laa-ra_ 'chink, little hole'.

66. Proto-Indo-European *_k'el-/*k'ol-/*k'l-_ '(to be) soft, tender, weak': Old Icelandic _klökkr_ 'bending, pliable, soft', _klökkva_ 'to soften'; Low German _klinker_ 'weak'; Lithuanian _glẽžnas_ 'delicate, flabby, sickly, puny, frail, weak, feeble', _glęžtù, gležiaũ, glèžti_ 'to become weak, flabby'.

    Northwest Caucasian: Common Abkhaz *_k'alá_: South Abkhaz _a-k'alá_ 'slender, elegant, graceful'.

67. Proto-Indo-European (extended form) *_k'em-bʰ-/*k'om-bʰ-/*k'm̥-bʰ-_ 'to chew (up), to bite, to crush', *_k'om-bʰo-s_ 'tooth, spike, nail': Sanskrit _jámbhate, jábhate_ 'to chew up, to crush, to destroy', _jámbha-ḥ_ 'tooth', _jámbhya-ḥ_ 'incisor, grinder'; Greek γόμφος 'bolt, pin', γομφίος 'a grinder-tooth'; Albanian _dhëmb_ 'tooth'; Old Icelandic _kambr_ 'comb'; Old English _camb_ 'comb', _cemban_ 'to comb'; Old Saxon _kamb_ 'comb'; Old High German _kamb, champ_ 'comb'; Lithuanian _žam̃bas_ 'pointed object'; Old Church Slavic _zǫbъ_ 'tooth'; Russian _zub_ [зуб] 'tooth'; Tocharian A _kam_, B _keme_ 'tooth'.

    Northwest Caucasian: Common Abkhaz (reduplicated) *_q'əm-q'əmə_: Bzyp _q'əm-q'ə́m-wa_ '(to eat) greedily, being very hungry'.

68. Proto-Indo-European (*_k'en-/*k'on-/)*k'n-_ 'knot, knob': Old Icelandic _knappr_ 'knob', _knútr_ 'knot'; Old English _cnop_ 'knob', _cnotta_ 'knot'; Middle Low German _knotte_ 'knot, knob'.

    Northwest Caucasian: Proto-Circassian *_k'ana_: Kabardian _k'āna_ 'piece, lump'. Common Abkhaz *_k'ak'ánə_: South Abkhaz _a-k'ak'án_ 'walnut'; Ashkharywa _k'ak'án_ 'walnut'; Abaza/Tapanta _k'ak'an_ 'nut'.

69. Proto-Indo-European (*_k'en-/*k'on-/)*k'n-_ 'knuckle-bone': Old Icelandic _knúta_ 'knuckle-bone, joint-bone, head of a bone', _knúi_ 'a knuckle'; Middle English _cnokil_ 'knuckle'; Middle Low German _knoke_ 'bone'.

    Proto-Indo-European *_k'en-u-_, *_k'n-ew-_ 'knee, joint, angle': Hittite _ge-e-nu_ 'knee'; Sanskrit _jā́nu_ 'knee'; Latin _genū_ 'knee, knot, joint'; Greek γόνυ 'knee, joint'; Gothic _kniu_ 'knee'; Old Icelandic _kné_ 'knee'; Old English _cnēow_ 'knee'; Old Saxon _knio_ 'knee'; Old High German _kneo_ 'knee'.

    Northwest Caucasian: Proto-Circassian *_k'anə_ 'knuckle-bone (used in bone game)': Bžedux _č''anə_ 'knuckle-bone (used in bone game)'; Kabardian _k'an_ 'knuckle-bone (used in bone game)'.

70. Proto-Indo-European (*_k'en-/*k'on-/)*k'n-_ 'to bend, twist, turn, or tie together': Greek γνάμπτω 'to bend', γναμπτός 'bent, curved'; Old Icelandic _kneikja_ 'to bend backwards with force', _knytja_ 'to knit or tie together', _knýta_ 'to knit, to fasten by a knot, to bind, to tie'; Swedish _kneka_ 'to be bent'; Old English _cnyttan_ 'to tie with a knot', _cnyttels_ 'string, sinew'; Middle Low German _knutten_ 'to tie'; New High German _knicken_ 'to crease, to bend, to fold, to crack, to break, to split, to snap, to burst', _knütten_ (dial.) 'to knit'.

    Northwest Caucasian: Common Abkhaz *_k''ant'/dá_: South Abkhaz _a-k''ant'a-rá/á-k''anda-ra_ 'to swing, to rock, to bend'; Abaza/Tapanta _k''ant'a_ 'elastic, resilient', _k''ant'a-ra_ 'to bend'.

71. Proto-Indo-European (extended form) _*k’en-k’-/*k’on-k’-/*k’n̥-k’-_ ‘growth, excrescence’: Greek γογγρώνη ‘an excrescence on the neck’, γόγγρος ‘an excrescence on trees’, γογγύλος ‘round’; Lithuanian _gùnga_ ‘hunch, lump’.

    Northwest Caucasian: Common Abkhaz _*k’an-(ć’ə)ć’ə́ra_: Bzyp _a-k’anć’əć’ə́r_ ‘wart’; Abzhywa _a-k’anc’əc’ə́ra, a-k’anc’ac’ə́ra_ ‘wart’; Abaza/Tapanta _c’ənk’’ra_ ‘wart’; Ashkharywa _k’’anc’əra_ ‘wart’.

72. Proto-Indo-European _*k’er-/*k’or-/*k’r̥-_ ‘to cry out, to call, to screech’: Sanskrit _járate_ ‘to call out to, to address, to invoke; to crackle (fire)’; Crimean Gothic _criten_ ‘to cry’; Old Icelandic _krutr_ ‘murmur’, _krytja_ ‘to murmur, to grumple’, _krytr_ ‘noise, murmur’; Old English _ceorran_ ‘to creak’, _ceorian_ ‘to murmur, to grumble’, _ceorcian_ ‘to complain’, _cracian_ ‘to resound’, _crācettan_ ‘to croak’, _crāwian_ ‘to crow’; Old Saxon _*krāian_ ‘to crow’; Old High German _crāen, krāhen, chrāen, khrāen_ ‘to crow’; Old Chruch Slavic _grajǫ, grajati_ ‘to crow, to caw’.

    Northwest Caucasian: Proto-Circassian _*k’ə(r)ğə_ ‘to squeak, to creak’: Bžedux _č’’ərğə_ ‘to squeak, to creak’; Kabardian _k’əğ_ ‘to squeak, to creak’. Common Abkhaz (reduplicated) _*k’ar-k’arə_: South Abkhaz _á-k’ark’ar-ra_ ‘to cackle’. Note: The Indo-European forms may also be compared with Common Abkhaz _*q’ərə_ ‘to croak, to caw’ (see below).

    Northwest Caucasian: Common Abkhaz _*q’ərə_: South Abkhaz _a-q’ə́r-ra_ ‘to croak, to caw’, (reduplicated) _á-q’ər-q’ər-ħa_ description of loud laughter; Bzyp _a-q’rə́_ ‘a kind of bird’. Note: The Indo-European forms may also be compared with Proto-Circassian _*k’ə(r)ğə_ ‘to squeak, to creak’ and Common Abkhaz (reduplicated) _*k’ar-k’arə_ ‘to cackle’ (see above).

73. Proto-Indo-European _*k’er(H)-/*k’or(H)-/*k’r̥(H)-_ ‘to decay, to wear out, to wither, to waste away, to become old’: Sanskrit _járati_ ‘to grow old, to become decrepit, to decay, to wear out, to wither, to be consumed, to break up, to perish’, _jára-ḥ_ ‘becoming old, wearing out, wasting’, _jaraṇá-ḥ_ ‘old, decayed’, _jīrṇá-ḥ_ ‘old, worn out, withered, wasted, decayed’, _jūrṇá-ḥ_ ‘decayed, old’, _járat-_ ‘old, ancient, infirm, decayed, dry (as herbs), no longer frequented (as temples) or in use’, _jarā́_ ‘old age’; Armenian _cer_ ‘old’; Greek γεραιός ‘old’, γέρων ‘(n.) an old man; (adj.) old’, γῆρας ‘old age’; Old Icelandic _karl_ ‘man, old man’; Old English _carl_ ‘man’ (Norse loan), _ceorl_ ‘free man of the lowest class; free man; common man; husband; man, hero’; Old High German _karl_ ‘man, husband’; Old Church Slavic _zrěti_ ‘to ripen, to mature’, _zrělъ_ ‘ripe’.

    Northwest Caucasian: Common Abkhaz _*q’arɦ°áǯə/*q’ərɦ°áǯə_: South Abkhaz _a-q’arj°áǯ/a-q’ərj°áǯ_ ‘very old, decrepit’.

74. Proto-Indo-European (extended form) _*k’r-um-b^{h}-_, _*k’r-u-b^{h}-_ ‘coarse, thick, big’: Lithuanian _grubùs_ ‘uneven, rough’; Russian _grúbyj_ [грубый] ‘rough, coarse’; Czech _hrubý_ ‘big, coarse, rough’; Slovak _hrubý_ ‘thick, big, coarse’; Polish _gruby_ ‘thick, big, coarse’. Note also: Sanskrit _grathnā́mi_, _grantháyati_ ‘to fasten, to tie or string together’, _grathna-ḥ_ ‘bunch, tuft’, _granthí-ḥ_ ‘a knot, tie, knot of a cord; bunch or protuberance’; Latin _grūmus_ ‘a little heap, hillock (of earth)’; Old Irish _grinne_ ‘bundle’; Old Icelandic _kring_ ‘round’; etc. Note: According to Pokorny (1959: 385—390), all of the above forms are ultimately derived from Proto-Indo-European _*k’er-/*k’or-/*k’r̥-_ (traditional _*ger-/*gor-/*gr̥-_) ‘to twist, to turn’.

    Northwest Caucasian: Proto-Circassian _*k’’ərə_ ‘thick, dense (of wool, beard, etc.), long (of hair), high (of grass)’: Bžedux _č’’ərə_ ‘thick, dense (of wool, beard, etc.), long (of hair), high (of grass)’; Kabardian _k’ər_ ‘thick, dense (of wool, beard, etc.), long (of hair), high (of grass)’.

75. Proto-Indo-European _*k’^{w}ed^{h}-/*k’^{w}od^{h}-_ ‘to strike, to beat, to smash’: Middle High German _quetzen, quetschen_ ‘to bruise, to mash, to crush’; Middle Low German _quetsen, quessen, quetten_ ‘to crush, to squeeze’; Dutch _kwetsen_ ‘to injure, to wound’; Swedish _kvadda_ ‘to smash to pieces’.

Northwest Caucasian: Proto-Circassian *_k’ᵒad(a)_ ‘to disappear, to get lost, to perish’: Bžedux _k’ᵒadə_ ‘to disappear, to get lost, to perish’; Kabardian _k’ᵒad_ ‘to disappear, to get lost, to perish’.

76. Proto-Indo-European *_k’ʷehbʰ-_ [*_k’ʷahbʰ-_]/*_k’ʷohbʰ-_ (> *_k’ʷābʰ-_/*_k’ʷōbʰ-_) ‘to dip (in water), to submerge’ (*_h_ = *_ə̑_$_4$): Greek βάπτω ‘to dip in water; to dye’, βαφή ‘dipping of red-hot iron into water; to dip in dye’; Old Icelandic _kefja_ ‘to dip, to put under water’, _kvefja_ ‘to submerge, to swamp’, _kœfa_ ‘to quench, to choke, to drown’, _kvafna_ ‘to be suffocated, choked (in water, stream)’; Middle High German _er-queben_ ‘to suffocate’.

Northwest Caucasian: Common Abkhaz *_k’ᵒabá_: South Abkhaz _á-k’ᵒaba-ra_ ‘to wash, to bathe’; Abaza/Tapanta _k’ᵒaba-rá_ ‘to wash, to bathe’.

77. Proto-Indo-European (extended form) *_k’ʷeħ̱h -dʰ-_ [*_k’ʷaħ̱h-dʰ-_]/*_k’ʷoħ̱h-dʰ-_ (> *_k’ʷādʰ-_/*_k’ʷōdʰ-_) ‘to push or press in, to tread (under foot)’ (*_ħ̱h_ = *_ə̑_$_2$): Sanskrit _gā́hate_ ‘to dive into, to bathe in, to plunge into; to penetrate, to enter deeply into’, _gāḍha-ḥ_ ‘pressed together, close, fast, strong, thick, firm’; Prakrit _gāhadi_ ‘to dive into, to seek’; Punjabi _gāhṇā_ ‘to tread out, to tread under foot, to travel about’; Hindi _gāhnā_ ‘to tread out, to caulk’; Serbo-Croatian _gȁziti_ ‘to wade, to tread’, _gaz_ ‘ford’.

Northwest Caucasian: Common Abkhaz *_k’ᵒaħa_: South Abkhaz _á-k’ᵒaħa-ra_, _a-k’ᵒaħa-rá_ ‘to knead (dough, clay, mud, etc.); to trample, to stamp’; Abaza/ Tapanta _k’ᵒħa-ra_ ‘to knead (dough, clay, mud, etc.); to trample, to stamp’.

78. Proto-Indo-European *_k’ʷeru-_ ‘spear, spit’ (< ‘round object’): Latin _veru_ ‘spit (for roasting)’; Umbrian (acc. pl.) _berva_ ‘(roasting-)spit’; Avestan _grava-_ ‘staff’; Old Irish _bir_, _biur_ ‘spear, spit’; Welsh _ber_ ‘spear, lance, shaft, spit’.

Northwest Caucasian: Common Abkhaz *_k’ᵒərə́_: Bzyp (indef. sg.) _k’ᵒərə́-k’_ ‘wheel’, _a-k’ᵒərč’’ə́ž’_, _a-k’ᵒə́r-č’’əž’_ ‘small cart, wagon; small wheel’, _a-k’ᵒrə́_ ‘roundish’; South Abkhaz _á-k’ᵒər-ra_ ‘to roll (of something small), to slide’; Abaza/Tapanta _r-k’ᵒər-ra_ ‘to pull, to drag’, _qa-čᵒ-k’ᵒra_ ‘bald-headed’ (< _qa-čᵒa_ ‘skin of the head’ + *_k’ᵒra_ ‘round’).

79. Proto-Indo-European *_k’ʷes-_ ‘to extinguish’: Lithuanian _gestù_, _gèsti_ ‘to go out, to die out, to become dim’; Old Church Slavic _u-gasiti_ ‘to put out’.

Northwest Caucasian: Proto-Circassian *_k’ᵒasa_ ‘to go out (as fire, light); to escape, to run away, to desert, to elope’: Bžedux _k’ᵒāsa_ ‘to go out (as fire, light)’; Kabardian _k’ᵒāsa_ ‘to escape, to run away, to desert, to elope’. Common Abkhaz *_k’ᵒášə_: South Abkhaz _a-k’ᵒáš mca_ ‘fire (_mca_) made of hardened wood’, _a-k’ᵒáš-x̌a-ra_ ‘to harden, to be petrified (of wood); to be reduced to ashes; to be annihilated’.

80. Proto-Indo-European *_k’ʷetʰ-_/*_k’ʷotʰ-_ ‘to say, to speak, to call: Armenian _koç̣em_ (< *_k’ʷotʰ-y-_) ‘to call, to invite, to invoke, to name’, _koç̣_ ‘call, invitation’; Gothic _qiþan_ ‘to say’; Old Icelandic _kveða_ ‘to say’; Old English _cweþan_ ‘to say, to speak’; Old Frisian _quetha_ ‘to speak’; Old Saxon _quedan_ ‘to speak’; Old High German _quedan_ ‘to speak’.

Northwest Caucasian: Proto-Circassian *_q’ᵒatʰa_ ‘to tell, to report; to announce, to make known’: Bžedux _ʔᵒātʰa_ ‘to tell, to report’; Kabardian _ʔᵒāta_ ‘to announce, to make known’.

81. Proto-Indo-European *_k’ʷetʰ-u-_ ‘glutinous secretion, viscous discharge: gum, resin, sap’ (< *_k’ʷetʰ-_/*_k’ʷotʰ-_ ‘to ooze [out], to seep [out]’): Sanskrit _játu-_ ‘lac, gum’; Latin _bitūmen_ ‘pitch, asphalt’ (borrowed from either Sabellian or Celtic); Middle Irish _beithe_ ‘birch-tree’ (borrowed from Brittonic Celtic); Old Icelandic _kváða_ ‘resin’; Faroese _kváða_ ‘viscous fluid from a cow’s teat’; Old Danish _kvade_ ‘birch sap’; Norwegian _kvaade_, _kvae_ ‘resin; watery fluid from a pregnant cow’s udder’, (dial.) _kvæde_ ‘birch sap’; Old English _cwidu_, _cweodo_, _cwudu_ ‘resin, gum; cud, mastic’; Old High German _quiti_, _kuti_ ‘glue’. Note: In view of Faroese _kváða_ ‘viscous fluid from a cow’s teat’ and Norwegian

kvaade, *kvae* ‘resin; watery fluid from a pregnant cow’s udder’, Armenian *kat*^{h}*n* ‘milk’ (dialectal variants include: Suč^{h}ava *gat*^{h}*ə*; Tbilisi *kát*^{h}*ə*; Łabarał, Goris, Šamaxi *kát*^{h}*nə*; Loṙi *kat*^{h}*ə*; Agulis *kaxc*^{h}; Havarik *kaxs*; Areš *kaxs*; Mełri *kaxc*^{h}; Karčewan *kaxc*^{h}) may belong here as well. If so, then the traditional comparison of the Armenian form with Greek γάλα ‘milk’, Latin *lac* ‘milk’, etc. (cf. Martirosyan 2008:294—296) is to be abandoned.

Northwest Caucasian: Proto-Circassian **k’*^{o}*ət*^{h}*(a)* ‘to pour out, to pour into’: Bžedux *yə-k’*^{o}*ət*^{h}*(a)* ‘to pour out, to pour into’; Kabardian *yə-k’*^{o}*ət (a)* ‘to pour out, to pour into’ (*yə* = ‘hollow space’).

82. Proto-Indo-European **k’*^{w}*r̥H-u-* ‘heavy, weighty; great, large, extended, long; grievous, serious; important, elevated’: Sanskrit *gurú-ḥ* ‘heavy, weighty; great, large, extended, long; high in degree, vehement, violent, excessive, deep, much; difficult, hard; grievous; important, serious, momentous; valuable, highly prized; dear, beloved; haughty, proud; venerable, respectable; best, excellent’; Latin *gravis* ‘heavy, weighty, burdensome; important, elevated, dignified; grievous, painful, hard, harsh, severe, unpleasant’; Greek βαρύς ‘heavy, weighty; impressive; difficult, wearisome, troublesome, oppressive’; Tocharian A *krāmärts*, B *kramartse* ‘heavy’, B *krāmär* ‘weight, heaviness’.

Northwest Caucasian: Common Abkhaz **k’*^{o}*ərə́ć*^{o}*ə*: South Abkhaz *-k’*^{o}*ərə́ć*^{o}*-ʒa* (adv.) ‘notably grown (up), having become taller; upright, erect’; Bzyp (Akhutsa) *a-pə́nć’a k’*^{o}*ə́ć*^{o} // (Zwandrypsh) *k’*^{o}*(ə)rə́ć*^{o} ‘turned-up nose’.

83. Proto-Indo-European **leʔ-u-s* (gen. sg. **leʔ-wo-s*) ‘stone’ (**ʔ* = **ə̥*$_{1}$): Greek λᾶας, λᾶς (< *λῆϝας) (gen. sg. λᾶος) ‘a stone, especially a stone thrown by warriors’, λεύω ‘to stone’, (Mycenaean) *ra-e-ja* ‘stone’; Old Irish *líe* (< **līwank-*) ‘stone’; Albanian *lerë* ‘heap of stones’. Note: This is a contested etymology. This makes it difficult to reconstruct the Proto-Indo-European form with absolute certainty. Cf. Matasović 2009:242 and Pokorny 1959:683.

Northwest Caucasian: Common Abkhaz **ləwə́*: South Abkhaz *á-ləw* ‘mill-stone’ (indef. sg. *ləwə́-k’*); Ashkharywa *a-ʒə́-ləw* ‘watermill’; Feria *á-law* ‘mill-stone’; Abaza/Tapanta *ləw* ‘handmill’.

84. Proto-Indo-European **leh-* [**lah-*] (> **lā-*) ‘to bark’ (**h* = **ə̥*$_{4}$): Albanian *leh* ‘to bark’; Lithuanian *lóju*, *lóti* ‘to bark’; Old Church Slavic *lajǫ*, *lajati* ‘to bark’; Russian *lájat'* [лаять] ‘to bark’.

Northwest Caucasian: Common Abkhaz **la*: South Abkhaz *á-la-š-ra* ‘to bark’, *á-la* ‘dog’; Abaza/Tapanta *la* ‘dog’; Ashkharywa *la* ‘dog’.

85. Proto-Indo-European **leħ̮h-* [**laħ̮h-*] (extended form **leħ̮h-w/u-* [**laħ̮h w/u-*]) ‘to pour, to pour out (liquids)’ (**ħ̮h* = **ə̥*$_{2}$): Hittite *laḫ-* in: (nom. sg.) *la-aḫ-ni-iš* ‘flask, flagon, frequently of metal (silver, gold, copper)’ (acc. pl. *la-ḫa-an-ni-uš*), (1st sg. pret.) *la-a-ḫu-un* ‘to pour, to pour out (liquids)’, (2nd sg. imptv.) *la-a-aḫ* ‘pour!’; *laḫ(ḫ)u-* in: (3rd sg. pres.) *la(-a)-ḫu(-u)-wa(-a)i*, *la-ḫu-uz-zi*, *la-a-ḫu-u-wa-a-iz[-zi]* ‘to pour (liquids, fluids; containers of these); to cast (objects from metal); to flow fast, to stream, to flood (intr.)’, (reduplicated ptc.) *la-al-ḫu-u-wa-an-ti-it* ‘poured’, (reduplicated 3rd sg. pres.) *li-la-ḫu-i*, *le-el-ḫu-wa-i*, *li-il-ḫu-wa-i* ‘to pour’, (reduplicated acc. sg.) *le-el-ḫu-u-un-da-in* ‘a vessel’; Luwian (1st sg. pret.) *la-ḫu-ni-i-ḫa* ‘to pour’ (?); Greek ληνός (Doric λᾱνός) ‘anything shaped like a tub or a trough: a wine-vat, a trough (for watering cattle), a watering place’ (< **lā-no-s* < **leħ̮h-no-s* [**laħ̮h-no-s*]).

Northwest Caucasian: Proto-Circassian **λaħa* ‘rivulet’: Šapsegh *λaħa* ‘rivulet’.

86. Proto-Indo-European **leħ̮h*^{w}*-* [**laħ̮h*^{w}*-*] (> **lāw-*), (**ləħ̮h*^{w}*-* >) **luħ̮h*^{w}*-* (> **lū-*) ‘to hit, to strike, to beat’ (**ħ̮h*^{w} = **ə̥*$_{2}^{w}$): Sanskrit *lū-* (3rd sg. pres. act. *lunā́ti*, [Vedic] *lunoti*) ‘to cut, to sever, to divide, to pluck, to reap, to gather; to cut off, to destroy, to annihilate’, *láva-ḥ* ‘act of cutting, reaping (of grain), mowing, plucking, or gathering’, *lāva-ḥ* ‘cutting, cutting off, plucking, reaping, gathering; cutting to pieces, destroying, killing’, *laví-ḥ* ‘cutting, sharp, edge (as a tool or instrument); an iron instrument for

cutting or clearing', *lūna-ḥ* 'cut, cut off, severed, lopped, clipped, reaped, plucked; nibbled off, knocked out; stung; pierced, wounded; destroyed, annihilated', *lūnaka-ḥ* 'a cut, wound, anything cut or broken; sort, species, difference', *lavítra-m* 'sickle'; Old Icelandic *ljósta* (< **lew-s-*) 'to strike, to smite; to strike, to hit (with a spear or arrow)', *ljóstr* 'salmon spear', *lost* 'blow, stroke', *lýja* 'to beat, to hammer; to forge iron; to wear out, to exhaust; (reflexive) to be worn, exhausted', *lúi* 'weariness', *lúinn* 'worn, bruised; worn out, exhausted'; Norwegian (dial.) *lua* 'to unwind'; Old Irish *loss* 'the point or end of anything, tail'; Welsh *llost* 'spear, lance, javelin, tail' (< **lustā*).

Northwest Caucasian: Common Abkhaz **laħ°á*: South Abkhaz *a-laħ°a-rá* 'to thresh (grains)'; Bzyp *a-laħ°(a)rə́* 'mortar for threshing grains'; Abaza/Tapanta *laħ°a-rá* 'to pound, to husk (grains)', *č'-laħ°a-ra* 'mortar for threshing grains' (**č'a* 'wheat'); Abzhywa *a-laħ°a-rá* 'mortar for threshing grains'.

87. Proto-Indo-European **mak'-* 'great, strong, mighty, powerful': Latin *magnus* (< **mak'(i)no-*) 'large, great, tall; outstanding, powerful, mighty', (adv.) *magis* 'more, to a greater extent, rather'; Albanian *madh* (< **mak'(H)-yo-*) 'big, large, tall'; Old Irish *maige* (< Proto-Celtic **mag-yo-*) 'great', (poetic) *mál* (< Proto-Celtic **mag-lo-*) 'noble, prince'.

    Northwest Caucasian: Common Abkhaz **maq'á*: South Abkhaz *a-maq'á*, *á-maq'-a* 'strong, powerful, big, great', *maq'ə́* 'old (of animals)'; Abaza/ Tapanta *maq'ə* 'strong, powerful, big, great'.

88. Proto-Indo-European **mat*^{h}- 'club, hoe': Sanskrit *matyá-ḥ* 'harrow, roller; club'; Latin *mateola* (< **matea* 'hoe') 'wooden hammer'; Old High German *medela* 'plow'; Old Church Slavic *motyka* 'hoe'; Russian *motýga* [мотыга] 'hoe, mattock'.

    Northwest Caucasian: Common Abkhaz **matá*: South Abkhaz *á-mata* 'piece, strip of field to be plowed or hoed'.

89. Proto-Indo-European **mat'-* 'to be wet, moist': Greek μαδάω 'to be moist'; Latin *madeō* 'to be wet'; Sanskrit *máda-ḥ* 'any exhilarating or intoxicating drink; hilarity, rapture, excitement, inspiration, intoxication; ardent passion for, sexual desire or enjoyment, wantonness, lust, ruttishness, rut (especially of an elephant); pride, arrogance, presumption, conceit of or about; semen', *mádati* 'to be glad, to rejoice, to get drunk', *mádya-ḥ* '(adj.) intoxicating, exhilarating, gladdening, lovely; (n.) any intoxicating drink, vinous or spiritous liquor, wine, Soma'; Avestan *mada-* 'intoxicating drink'.

    Northwest Caucasian: Common Abkhaz **mat'ə́jə*: Bzyp *á-mat'əj* 'drizzle; nectar', *mat'ə́jk'a* 'melted wax', metaphorically 'state of a man under the influence of the evil eye'.

90. Proto-Indo-European **mē* negative/prohibitive particle: 'no, not': Sanskrit *mā́* prohibitive particle: 'not, that not'; Armenian *mi* prohibitive particle: 'do not!'; Greek μή 'not'; Tocharian A/B *mā* 'not, no' (simple negation and prohibition); Albanian *mos* (< **mē+*k^{wh}*e*) prohibitive particle: 'do not!'.

    Northwest Caucasian: Proto-Circassian **mə-* negative prefix: Bžedux *mə-* negative prefix; Kabardian *mə-* negative prefix. Common Abkhaz **m(ə)-* ~ **m(a)-* negative prefix, in, for example, (reduplicated) **ma(-wə)-ma-wə* 'no' (< **ma* negation + **-wə* adverbial suffix): South Abkhaz *mamáw*, *mawmáw* 'no'; Abaza/Tapanta *mamáw*, *mmaw* 'no'.

91. Proto-Indo-European **meʔ-/*moʔ-* (> **mē-/*mō-*); extended forms: **meʔ-is-/*moʔ-is-* (> **meis-/*mois-*); **meʔ-r-/*moʔ-r-* (> **mēr-/*mōr-*) 'great(er), large(r); more' (**ʔ* = *$ə_1$): Gothic *maiza* 'greater, larger'; Old Icelandic *meiri* 'more'; Old English *māra* 'greater, more'; Old High German *mēro* 'more'; Old Irish *már*, *mór* 'great'.

    Northwest Caucasian: Common Abkhaz **ma-za* (**ma* 'to have' ?): South Abkhaz *a-máza-ra* 'wealth, big amount of (valuable) possessions'; Ashkharywa (Apsua) *maza-rá* 'wealth, big amount of (valuable) possessions'.

92. Proto-Indo-European **meh-* [**mah-*]/**moh-* (> **mā-*/**mō-*) ‘to beckon, to wave the hand’ (**h* = *$ə̭_4$): Lithuanian *móju*, *móti* ‘to wave the hand’; Old Russian *majati* ‘to beckon’; Czech *mávati* ‘to wave’; Serbo-Croatian *mȁjati* ‘to beckon’.

Northwest Caucasian: Common Abkhaz **ma* ‘hand’ in (this is but a sampling): Common Abkhaz **ma-p’°ə́*: South Abkhaz *a-nap’ə́* ‘hand’; Ashywa *mp’°ə* ‘hand’; Abaza/Tapanta *nap’ə́* ‘hand’. Common Abkhaz **ma-tá*: South Abkhaz *á-mta* ‘handle’, (indef. sg.) *matá-k’* ‘handle’. Common Abkhaz **ma-č’á*: Bzyp *a-mač’á* ‘palm, span’; Abzhywa *á-mač’a* ‘palm, span’. Common Abkhaz **ma-x̌°á*: South Abkhaz *a-ma-x̌°á-r* ‘arm’; Ashywa *max̌°á* ‘arm’. Common Abkhaz **ma-ɦá*: South Abkhaz *á-maa* ‘handle’; Abaza/Tapanta *mɦa* ‘handle’.

93. Proto-Indo-European **mel-* ‘wool, woolen garment’: Greek μαλλός ‘a lock of wool, wool’ (< **ml̥-nó-s* ?); perhaps also Lithuanian *mìlas* ‘rough (home-made) woolen cloth’ (< **ml̥-Ho-s*).

Northwest Caucasian: Proto-Circassian **malə* ‘sheep’: Bžedux *malə* ‘sheep’; Kabardian *mal* ‘sheep’.

94. Proto-Indo-European **mel-*/**mol-*/**ml̥-* ‘(vb.) to be confused, mistaken, wrong; (n.) wrong, falsehood; (adj.) wrong, false’: Armenian *mel* ‘sin, transgression’, *molim* ‘to become mad’, *molorim* ‘to err, to be confused, to be mistaken; to be mad’, *molar* ‘erring, deceiving’, *moli* ‘mad, furious’; Middle Irish *mell* ‘fault, sin’, *mellaim* ‘to deceive’, *maile* ‘evil’; Old English *āmeallian* ‘to become insipid’; West Frisian *māl* ‘foolish, mad’; Middle Low German *mall* ‘stupid, foolish’; Dutch *mal* ‘foolish, funny, cracked, crazy, mad’; Lithuanian *mẽlas* ‘lie, falsehood’; Latvian *meli* ‘lie, falsehood’; (?) Sanskrit *malvá-ḥ* ‘thoughtless, foolish, unwise’; (?) Greek μέλεος ‘idle, useless; unhappy, miserable’; (?) Latin *malus* ‘bad, wicked, mischievous, malicious; incapable, cowardly, weak’.

Northwest Caucasian: Common Abkhaz **malá*: South Abkhaz *a-malá*, (Feria) *á-mala-x̌a* ‘for free; uselessly’, *á-mala* ‘uselessly; alone, by oneself’.

95. Proto-Indo-European **men-*/**mon-*/**mn̥-* ‘(vb.) to desire passionately, to yearn for; (n.) ardent desire, passion, lust’: Tocharian B *mañu* ‘desire’, A *mnu* ‘spirit, appreciation, desire’; Sanskrit *man-* (RV) ‘to hope or wish for’ (also ‘to think’), *mánas-* ‘spirit, passion’ (also ‘mind, intellect, perception, sense’), *manasyú-* (RV) ‘wishing, desiring’, *manā́* (RV) ‘devotion, attachment, zeal, eagerness’, *manīṣita-* (MBh) ‘desired, wished (for); desire, wish’, *manyú-* (RV) ‘high spirit or temper, ardor, zeal, passion’; Greek μενεαίνω ‘to desire earnestly or eagerly’, μένος ‘spirit, passion’, μέμονα (perfect used as present) ‘to desire or wish eagerly, to yearn for, to strive for’, μενοινή ‘eager desire’, μενοινάω ‘to desire eagerly’; Old Irish *menn-* ‘to desire’, *menme* ‘feeling, desire’ (also ‘mind, intelligence’); Old Icelandic *muna* ‘to like, to long for’, *munaðr* ‘delight’, *munr* ‘love’, *munuð* or *munúð* ‘pleasure, lust’; Old English *myne* ‘desire, love, affection’ (also ‘memory’), *mynle* ‘desire’, *mynelic* ‘desirable’; Old Frisian *minne* ‘love’; Old Saxon *minnea*, *minnia* ‘love’; Old High German *minna* ‘love’, *minnōn*, *minneōn* ‘to love’.

Proto-Indo-European **manu-s* ‘man, begetter, progenitor’: Avestan *manuš-* ‘man, person’ in *Manuš-čiθra-*; Sanskrit *mánu-ḥ* ‘man, mankind, father of men’; Gothic *manna* ‘man, person’; Old Icelandic *mannr* ‘man, human being’; Old English *mann* ‘man, human being’; Old Frisian *mann*, *monn* ‘man’; Old Saxon *mann* ‘man’; Old High German *man(n)* ‘man’; Old Church Slavic *mǫžь* ‘man’.

Northwest Caucasian: Proto-Circassian **mana* ‘penis’: Bžedux *māna* ‘penis’; Kabardian *māna* ‘penis’.

96. Proto-Indo-European **merH-*/**morH-*/**mr̥H-* ‘to sparkle, to glisten, to gleam’: Hittite *marra-* or *marri-* ‘(sun)light’; Sanskrit *márīci-ḥ*, *marīcī* ‘ray of light (of the sun or moon); light; a particle of light’, *marīcin-* ‘possessing rays, radiant; the sun’; Greek μαρμαίρω, μαρμαρίζω ‘to flash, to sparkle, to glisten, to gleam’; Gothic *maurgins* ‘morning’; Old Icelandic *morginn* ‘morning’; Old English *morgen*,

myrgen 'morning'; Old High German *morgan* 'morning, tomorrow'; Belorussian *mríty* 'to dawn, to grow light'.

Northwest Caucasian: Common Abkhaz **mará*: Bzyp *á-mra* // *á-mər(a)* // *á-mara* 'sun'; Ahchypsy *á-mara* 'sun'; Ashkharywa *á-mara* 'sun'; Abaza/ Tapanta *mará* 'sun'.

97. Proto-Indo-European **met^{h}-* 'to measure' (> 'to reap, to mow'): Latin *metō* 'to reap, to mow; to gather, to harvest'; Welsh *medi* 'to mow, to harvest', *medel* 'a group (of reapers)'; Lithuanian *metù*, *mèsti* 'to throw, to hurl, to fling', *mẽtas* 'time', *mãtas* 'measure'; Old Church Slavic *metǫ*, *mesti* 'to throw, to sweep'.

Northwest Caucasian: Common Abkhaz **matá*: South Abkhaz *á-mata* 'piece, strip of field to be plowed or hoed'.

98. Proto-Indo-European **mo-* demonstrative stem (only attested in relic forms in Brittonic Celtic): Welsh *ýma* (poetical *ýman*) 'here'; Breton *ama*, *amañ*, *-ma*, *-mañ* 'here', (Vannetais) *ama*, *amann*, *amenn* 'here'; Cornish *yma*, *omma*, *-ma*, *-man* 'here'.

Northwest Caucasian: Proto-Circassian **mə* 'this': Kabardian *mə* 'this'; Bžedux *mə* 'this'.

99. Proto-Indo-European **mor-* 'mulberry, blackberry': Greek μόρον, (Hesychius) μῶρα· συκάμινα 'mulberry, blackberry', μορέα 'mulberry-tree'; Armenian *mor* 'blackberry'; Latin *mōrum* 'mulberry, blackberry', *mōrus* 'mulberry-tree'; Middle Irish *merenn* 'mulberry'; Old English *mōrbēam*, *mūrbēam* 'mulberry-tree', *mōrberie*, *mūrberie* 'mulberry'; Old High German *mūrberi*, *mōrberi* 'mulberry'; Lithuanian *mõras* 'mulberry'.

Northwest Caucasian: Proto-Circassian **mark'^{o}a* 'mulberry, blackberry': Temirgoy *mārk'^{o}a* 'mulberry, blackberry'; Kabardian *marāk'^{o}a* 'mulberry, blackberry'.

Note: This may be a "Wanderwort", borrowed by both Proto-Indo-European and Northwest Caucasian.

100. Proto-Indo-European **ne-*, **no-*; **ʔe+no-*, **ʔo+no-* demonstrative stem: 'this, that' (**ʔ* = **ə̥$_{1}$*): Sanskrit *ana-* (instr. *anéna*, *anáyā*) 'this, these', *ná* 'like, as'; Greek νή, ναί used in strong affirmation: 'yea, verily, aye, yes', ἕνη 'the last day of the month'; Latin (conj.) *enim* 'indeed, truly, certainly', *nē*, *nae* 'yes, verily, truly'; Lithuanian *nè*, *nègi*, *nègu* 'than', *néi* 'as, than', *añs*, *anàs* (f. *anà*) 'that, that one'; Old Church Slavic *onъ* (*ona*, *ono*) 'that, he'; Hittite *an-ni-iš* 'that, yonder'; Armenian *na* 'that; he, she, it; him, her', *-n* definite article.

Northwest Caucasian: Common Abkhaz **na-*: South Abkhaz *nas* (< **ná-sə*: **na-* 'thither', **sə* 'to go') 'then, afterwards'; Ashkharywa *anas* 'yes' (with the interrogative connotation 'well, then'); Bzyp *naq'* (< **ná-q'a*) 'thither', *nax̌'ə́* (< **n-a+x̌'ə́*: **na-* 'thither', **a+x̌'ə́* directional postposition) 'there'. Common Abkhaz **a-ná*: South Abkhaz *aná* 'there'; Abaza/Tapanta *aná-ʔa* 'there'.

101. Proto-Indo-European (**neb^{h}-*/)**nob^{h}-* 'navel': Sanskrit *nā́bhi-ḥ* 'navel'; Old High German *naba* 'nave, hub (of a wheel)'; Old Prussian *nabis* 'navel'.

Northwest Caucasian: Proto-Circassian **nəba* 'belly': Bžedux *nəba* 'belly'; Kabardian *nəba* 'belly'. Note also: Temirgoy *nəbəǯ'ə* 'navel'; Kabardian *bənža* 'navel'; Abaza/Tapanta *bənʒ'a* 'navel'; Ubykh *nəbəǯ'* 'navel'.

102. Proto-Indo-European **neg^{h}-*/**nog^{h}-* 'to strike, to split, to pierce': Old Irish *ness* 'wound'; Old Church Slavic *nožь* 'knife', *pro-noziti* 'to pierce through'.

Northwest Caucasian: Proto-Circassian *_nag(a)_ ‘misshapen; to disfigure’: Kabardian _naga-ʔ^{o}əga_ ‘misshapen’, _bzaga-nāga_ ‘bad, nasty, evil’, _wə-nag_ ‘to disfigure’; Temirgoy _naǯ'a-ʔ^{o}əʒ'a_ ‘misshapen’.

103. Proto-Indo-European *_(s)nuso-s_ ‘daughter-in-law’: Sanskrit _snuṣā́_ ‘son’s wife, daughter-in-law’; Armenian _nu_ ‘daughter-in-law’; Greek νυός ‘daughter-in-law; any female connected by marriage; wife, bride’; Albanian _nuse_ ‘bride, (rarely) daughter-in-law’; Latin _nurus_ ‘daughter-in-law; a young married woman’; Crimean Gothic _schuos_ (misprint for *_schnos_) ‘betrothed’; Old Icelandic _snør_, _snor_ ‘daughter-in-law’; Old English _snoru_ ‘daughter-in-law’; Old Frisian _snore_ ‘daughter-in-law’; Middle Dutch _snoer_, _snorre_ ‘daughter-in-law’; Old High German _snur_, _snor_, _snura_, _snuora_ ‘daughter-in-law’; Serbian Church Slavic _snъxa_ ‘daughter-in-law’; Russian _snoxá_ [сноха] ‘daughter-in-law’; Serbo-Croatian _snàha_ ‘daughter-in-law’.

    Northwest Caucasian: Proto-Circassian *_nəsa_: Bžedux _nəsa_ ‘(father’s) brother’s wife, daughter-in-law’; Kabardian _nəsa_ ‘(father’s) brother’s wife, daughter-in-law’; Adyghe _nəsa_ ‘(father’s) brother’s wife, daughter-in-law’. Ubykh _nəsá:ɣ_ ‘(father’s) brother’s wife, daughter-in-law’.

    Note: Also found in Northeast Caucasian and Kartvelian:

    1. Northeast Caucasian: Avar, Batsbi, Chechen, Ingush _nus_ ‘daughter-in-law’; Andi _nusa_ ‘daughter-in-law’; Tindi _nus(a)_ ‘daughter-in-law’; Ghodberi _nuse-j_ ‘daughter-in-law’; Karta _nusa_ ‘daughter-in-law’; etc.
    2. Kartvelian: Mingrelian _nisa_, _nosa_ ‘daughter-in-law’; Laz _nusa_, _nisa_ ‘daughter-in-law’.

104. Proto-Indo-European *_p^{h}at^h-_ ‘to beat, to knock; to strike, to smite’ (only in Greek): Greek πατάσσω ‘to beat, to knock; to strike, to smite’, παταγμός ‘a beating’, etc.

    Northwest Caucasian: Proto-Circassian *_p^{h}at^{h}a_ ‘to damage, to wear out (a surface)’: Bžedux _ǧa-p^{h}at^{h}a-n_ ‘to damage, to wear out (a surface)’.

105. Proto-Indo-European (extended form) *_p^{h}eh-s-_ [*_p^{h}ah-s-_] (> *_p^{h}ās-_) ‘to puff, to blow; to reek (of), to smell (of)’ (only in Slavic) (*_h_ = *_ə̥$_4$_): Russian _paxnút'_ [пахнуть] ‘to puff, to blow’, _páxnut'_ [пахнуть] ‘to smell (of), to reek (of)’; Czech _páchnouti_ ‘to be fragrant’; Polish _pachnąć_ ‘to smell (of)’.

    Perhaps also: Proto-Indo-European (extended form) *_p^{h}eh-k’-_ [*_p^{h}ah-k’-_] (> *_p^{h}āk’-_) ‘face, surface’ (only in Indo-Iranian) (*_h_ = *_ə̥$_4$_): Sanskrit _pā́ja-ḥ_ ‘face, surface’; Khotan Saka _pāysa-_ ‘surface’.

    Northwest Caucasian: Proto-Circassian *_p^{h}a_ ‘nose, front’: Bžedux _p^{h}a_ ‘nose, front, beginning, etc.’; Kabardian _pa_ ‘nose, front, beginning, etc.’ Proto-Circassian *_p^{h}aPλa_ ‘red-nosed’; Proto-Circassian *_p^{h}ax^{o}ə_ ‘white-nosed’; Proto-Circassian *_p^{h}aq:a_ ‘snub-nosed’; Proto-Circassian *_p^{h}aPĝə_ ‘bridge of nose’; Proto-Circassian *_p^{h}am(ə)_ ‘to smell (something)’; etc. Common Abkhaz *_pə_ ‘nose’, in *_pə-n-ć’a_ (< *_pə_ ‘nose’, _-n-_ locative, _ć’a_ ‘sharp’): Ashkharywa _a-pə́nc’a_ ‘nose’; Bzyp _a-pə́nć’a_ ‘nose’; Abzhywa _a-pə́nc’a_ ‘nose’; Abaza/ Tapanta _pə́nc’a_ ‘nose’. Common Abkhaz *_a+pə_ ‘before, at the front’; Common Abkhaz *_a+p-á+x̌'a_ ‘earlier, previously, before’; Common Abkhaz *_a+pə́-x̌'a_ ‘earlier, previously, before’; Common Abkhaz *_á+pə-x̌'a_ ‘at the front, earlier’; Common Abkhaz *_a+p+qá_ ‘ahead, before, earlier’; Common Abkhaz *_p-á-ga_ (< *_p-a_ ‘the first’, *_ga_ ‘to carry, to bring’) ‘to pass ahead, to beave behind, to forestall’; Common Abkhaz *_pə-bá_ ‘smell, odor’; Common Abkhaz *_pə́-za_ ‘to lead’; etc.

106. Proto-Indo-European *_p^{h}eḫ̮h-_ [*_p^{h}aḫ̮h-_]/*_p^{h}oḫ̮h-_ > *_p^{h}ā-_/*_p^{h}ō-_ ‘to protect, to guard, to defend’ (*_ḫ̮h_ = *_ə̥$_2$_): Hittite (1st pres. sg. act.) _pa-aḫ-ḫa-aš-ḫi_, _pa-aḫ-ḫa-aš-mi_ ‘to protect, to guard, to defend; to observe (agreements), to keep (oaths), to obey (commands), to keep (a secret)’; Tocharian B _pāsk-_ ‘to guard, to protect; to practice (moral behavior)’.

Northwest Caucasian: Common Abkhaz **px̌a*: Abaza/Tapanta *px̌a* 'authority, respect, honor'. Common Abkhaz **px̌ə́-k°ə* (< **px̌a* 'authority', **k°ə* 'vow'): South Abkhaz *a-px̌ə́-kᵒ* 'duty, obligation; fate'.

107. Proto-Indo-European **pʰéħ̮h-ur-* [**pʰáħ̮h-ur-*], **pʰəħ̮h-wór-* 'fire' (**ħ̮h* = **ə̯*$_2$): Hittite (nom.-acc. sg.) *pa-aḫ-ḫu-ur*, *pa-aḫ-ḫu-wa-ar*, *pa-aḫ-ḫur* 'fire', (gen. sg.) *pa-aḫ-ḫu-e-na-aš*; Luwian (nom. sg.) *pa-a-ḫu-u-ur* 'fire'; Greek πῦρ 'fire'; Umbrian *pir* 'fire'; Gothic *fōn* 'fire', (gen. sg.) *funins*; Old Icelandic *fúrr* 'fire', *funi* 'flame'; Old English *fȳr* 'fire'; Old Saxon *fiur* 'fire'; Old High German *fiur*, *fuir* 'fire'; Tocharian A *por*, B *puwar* 'fire'; Old Czech *púř* 'glowing ashes, embers'; Armenian *hur* 'fire'.

Northwest Caucasian: Proto-Circassian **Px̌aq:°a* 'torch': Kabardian *px̌āq'°a* 'torch'. Common Abkhaz **px̌a*: South Abkhaz *a-px̌á* 'warm', *a-px̌a-ra* 'to warm up, to become warm; to shine (of sun, moon)'; Abaza/Tapanta *px̌a-rá* 'to warm up, to become warm'. Common Abkhaz **px̌-ʒə́* (< **px̌a* 'warm', **ʒə* 'water'): South Abkhaz *a-px̌-ʒə́* 'sweat'; Abaza/Tapanta *px̌-ʒə* 'sweat'. Common Abkhaz **px̌ə-nə́* (< **px̌a* 'warm', **-nə* 'season, time of'): South Abkhaz *a-px̌ə-n* 'summer'; Abaza/Tapanta *px̌-nə* 'summer', *px̌ən-č'ə́l'a* 'July; middle of summer'; Ashkharywa *a-px̌ə-n-ra* 'summer'.

108. Pre-Proto-Indo-European **pʰekʷʰ-*/**pʰokʷʰ-* 'to strike, to hit, to beat, to pound' (> 'to fight' in Germanic): Hittite *pakkušš-* 'to pound, to crack, to crush, to grind', (adj.) *pak(kuš)šuwant-* 'cracked (?)'. Proto-Germanic **feχtanan* 'to fight' > Old English *feohtan* 'to fight, to combat, to strive; to attack, to fight against', *feoht* 'fight, battle; strife'; Old Frisian *fiuchta*, *fiochta* 'to fight'; Old Saxon *fehtan* 'to fight'; Old High German *fehtan* 'to fight, to battle, to combat', *gifeht*, *fehta* 'fight, battle, combat'. Note: Proto-Indo-European **-kʷʰ-* > **-χ-* before **-t-* in Proto-Germanic (cf. Proto-Germanic **naχtz* 'night' [< **nokʷʰtʰs*] > Gothic *nahts* 'night'; Old Icelandic *nátt*, *nótt* 'night'; Old English *niht*, *neaht* 'night'; Old Frisian *nacht* 'night'; Old Saxon *naht* 'night'; Old Dutch *naht* 'night'; Old High German *naht* 'night').

Northwest Caucasian: Proto-Circassian **pʰak:°a* 'blunt': Bžedux *pʰāk:°a* 'blunt'; Kabardian *pāg°a* 'blunt'. Apparent Kabardian loan (if not from **pə* 'nose', **ag°a* 'short') in: South Abkhaz *a-pág°a* 'dock-tailed, short; blunt, obtuse'; Abaza/Tapanta *pag°a* 'snub-nosed'.

109. Proto-Indo-European **pʰek'-*/**pʰok'-* 'space, interval' (only in Germanic): Old English *fæc* 'space of time, division, interval'; Old Frisian *fek*, *fak* 'niche'; Middle Dutch *vac* 'compartment, section'; Old High German *fah* 'wall, compartment'.

Northwest Caucasian: Proto-Circassian **pʰak'a* 'stretch, interval, zone': Temirgoy *pāč''a* 'stretch, interval, zone'; Kabardian *pāka* 'stretch, interval, zone'.

110. Proto-Indo-European **pʰer-*/**pʰor-*/**pʰr̥-* '(vb.) to fly, to flee; (n.) feather, wing': Hittite (3rd sg.) *pár-aš-zi* 'to flee'; Sanskrit *parṇá-m* 'wing, feather'; Latin *-perus* in *properus* 'quick, rapid, hasty', *properō* 'to hasten'; Russian Church Slavic *perǫ*, *pьrati* 'to fly', *pero* 'feather'.

Northwest Caucasian: Common Abkhaz **pərə́*: South Abkhaz *a-pər-rá* 'to fly', *á-pər-pər-ra* 'to flit, to flutter, to flap'; Ashkharywa: (Kuv) *pər-rá*, (Apsua) *bər-rá* 'to fly'; Bzyp *jə-pərpər-wá* 'doing something quickly', *á-pər-ħa* 'quickly, swiftly'.

111. Proto-Indo-European **pʰer-*/**pʰor-*/**pʰr̥-* 'to go or pass; to go or pass over or across; to go forth or out': Sanskrit *píparti* 'to bring over or to, to bring out of, to deliver from, to rescue, to save, to protect, to escort, to further, to promote; to surpass, to excel', (causative) *pāráyati* 'to bring over or out', *pāráḥ* 'bringing across'; Greek περάω 'to pass across or through, to pass over, to pass, to cross', πορίζω 'to carry, to bring about, to provide, to furnish, to supply, to procure, to cause', πόρος 'a means of crossing a river, ford, ferry'; Latin *portō* 'to bear or carry along, to convey', *porta* 'gate, door'; Gothic **faran* 'to wander, to travel', **farjan* 'to travel', **at-farjan* 'to put into port, to land', **us-farþō* 'shipwreck'; Old Icelandic *ferja* 'to ferry over a river or strait', *far* 'a means of passage, ship', *fara* 'to move, to pass

along, to go', *farmr* 'freight, cargo, load', *fœra* 'to bring, to convey', *för* 'journey'; Old English *faran* 'to go, to march, to travel', *ferian* 'to carry, to convey, to lead', *fōr* 'movement, motion, course', *ford* 'ford'; Old High German *faran* 'to travel', *ferien*, *ferren* 'to lead, to ferry across', *fuoren* 'to lead, to convey', *fuora* 'journey, way', *furt* 'ford'.

Northwest Caucasian: Proto-Circassian **pʰərx̌ºa* 'passageway, porch': Kabardian *pərx̌ºa* 'passageway, porch'.

112. Proto-Indo-European **pʰer-/*pʰor-/*pʰr̥-* base of prepositions and preverbs with a wide range of meanings such as 'in front of, forward, before, first, chief, forth, foremost, beyond, etc.': Sanskrit *páraḥ* 'far, distant', *puráḥ* 'in front, forward, before', *purati* 'to precede, to go before', *prá* 'before, in front', *práti* 'towards, near to, against', *pratarám* 'further', *prathamá-ḥ* 'foremost, first'; Greek πέρᾱν, πέρην 'across, beyond, on the other side', παρά, παραί 'beside', πάρος 'before', πρό 'before', πρότερος 'before, in front of, forward', πρῶτος 'first, foremost', πρόμος 'chief, foremost, first', πρόκα 'forthwith', πρός, προτί 'from'; Latin *per* 'through, along, over', *prae* 'before, in front', *prior* 'former, first', *prīmus* 'first, foremost', *prō* 'before, in front of'; Gothic *faur* 'for, before', *frauja* 'master, lord', *fairra* 'far', *faura* 'before, for, on account of, from', *fram* 'from, by, since, on account of', *framis* 'further, onward', *frumists* 'first, foremost, best, chief', *fruma* 'the former, prior, first', *frums* 'beginning'; Old Icelandic *for-* 'before', *fjarri* 'far off', *fram* 'forward', *fyrr* 'before, sooner', *fyrstr* 'first'; Old English *feorr* 'far', *feorran* 'from afar', *for*, *fore* 'before', *forma* 'first', *fram* 'from', *frum* 'first', *fyrst*, *fyrest* 'first', *fyrmest* 'first'; Old Frisian *for* 'before', *fara*, *fore* 'before', *ferest* 'first', *forma* 'first', *vorsta*, *fersta* 'prince'; Old Saxon *for*, *fur* 'before', *for(a)*, *far* 'before', *forma* 'first', *furi* 'before', *furist* 'first, foremost', *furisto* 'prince'; Old High German *furi* 'before, for', *fora* 'before', *furist* 'first', *fir(i)-* 'opposite'; Lithuanian *prõ* 'through, past, by', *priẽ* 'at, near, by', *priẽš* 'against'; Hittite *pa-ra-a* 'forth', *pí-ra-an* 'before, forth'; Luwian *pár-ra-an* 'before, in front', *pa-ri-ya-an* 'beyond; exceedingly, especially'; Lycian *przze/i-* 'front, foremost', *pri* 'forth; in front'.

Northwest Caucasian: Common Abkhaz **pə-ra* 'through': South Abkhaz *a-par-ħºa*, *a-pəra-ħºa* 'apron' (< *a-pə́ra-ħºa-ra* 'to tie up through'); Abaza/ Tapanta *pra-psá* 'curtain; apron' (< **pəra-psa* 'to throw through').

113. Proto-Indo-European **pʰes-/*pʰos-*, **pʰs-u-* 'to breathe, to blow': Sanskrit *psu-* in *ápsu-ḥ* 'breathless'; Greek ψῡχή 'breath, spirit; the soul or spirit of man', ψύχω 'to breathe, to blow'. Note: An alternative etymology is possible: **bʰes-/*bʰos-*, **bʰs-u-* 'to breathe, to blow' (see above).

Northwest Caucasian: Proto-Circassian **Psa* 'life, soul': Bžedux *psa* 'life, soul'; Kabardian *psa* 'life, soul'. Proto-Circassian **Psawə* 'to live': Kabardian *psaw* 'to live; healthy, whole, all'; Bžedux *psawə* 'to live', *psāwə* 'healthy', *pst:awə* 'whole, all'. Common Abkhaz **psə*: Bzyp *a-psə-n-ć'-rə́* 'life-time'; South Abkhaz *a-psə́* 'soul', *a-psə́p* 'respiration', *a-psatá* 'place where souls rest after death', *a-ps-š'a-ra* '(to) rest', *a-psə́č* 'weak'; Abaza/Tapanta *psə* 'soul', *psəp* 'respiration', *psatá* 'place where souls rest after death', *č-ps-š'a-ra* '(to) rest'; Abzhywa *a-psə-n-c'-rə́* 'life-time'.

114. Proto-Indo-European **pʰĕ̄s-/*pʰŏ̄s-* (with nasal infix **pʰĕ̄ns-/*pʰŏ̄ns-*) 'dust, sand': Sanskrit *pāṁsú-ḥ*, *pāṁsuká-ḥ* 'crumbling soil, dust, sand'; Old Church Slavic *pěsъkъ* 'sand'; Russian *pesók* [песок] 'sand'; (?) Luwian *pa/ušūriya-* 'dust (?)', *pāšiḫā(i)-* 'to pulverize (?)'.

Northwest Caucasian: Common Abkhaz **psa* 'to pour dry substance (for example, sand, grains), to strew': South Abkhaz *á-kº-psa-ra* 'to pour something on, to sow', *á-psa-q''a-ra* 'to winnow (grain)' (**q''a* 'to wave, to beat); Abaza/Tapanta *á-kº-psa-ra* 'to pour something on, to sow'.

115. Proto-Indo-European **pʰes-tʰi-/*pʰos-tʰi-* 'fire' (only in Icelandic): Old Icelandic (poet.) *fasti* 'fire'; Modern Icelandic *fastilja* 'smoke coming from a covered fire'.

Northwest Caucasian: Proto-Circassian *_Ps(a)_ ‘to shine’: Bžedux _q:-ya-psə_ ‘to shine (as sun, fire) (intr.)’; Kabardian _q’-ay-ps_ ‘to shine (as sun, fire) (intr.)’; Temirgoy _tya-psa_ ‘to illuminate (intr.)’. Proto-Circassian *_Psəz̧^{o}a_ ‘boiling water’: Temirgoy _psəz̧^{o}a_ ‘boiling water’. Common Abkhaz *_(p)sasə́jə_: South Abkhaz _a-psasə́j_ ‘a bit warm’, _a-psasə́j-ra_ ‘to warm up a bit, to start melting (snow)’; Abaza/Tapanta _sasə́j-ra_ ‘to melt’; Bzyp _á-psasəj-ra_ ‘to warm up a bit, to start melting (snow)’.

116. Proto-Indo-European *_p^{h}es-t^{h}o-_/*_p^{h}os-t^{h}o-_ ‘fast, firm’: Armenian _hast_ ‘firm, steady, standing still, tough’, _hastoǰ_ ‘firmness, standing still, strength’; Gothic _fastan_ ‘to keep firm, to hold fast’; Old Icelandic _fastr_ ‘fast, firm’; Old English _fæstnian_ ‘to fasten, to fix, to secure, to bind’, _fæst_ ‘fast, fixed, firm, secure’; Old Saxon _fast_ ‘fast, firm’; Old High German _fasto_, _faste_ ‘fast, firm’, _festī̆_, _festīn_ ‘firmness, strength; shelter, stronghold, fortress’.

Northwest Caucasian: Proto-Circassian *_psə_ ‘string, cord, lace, strap, handle’: Bžedux _-psə_ ‘string, cord, lace, strap, handle’, _č’’āpsa_ ‘string, rope’; Kabardian _psə_ ‘string, cord, lace, strap, handle’, _k’āpsa_ ‘string, rope’; Temirgoy _λapsə_ ‘leather strap for tying up shoes, shoelace’. Common Abkhaz *_psa_ ‘to tie up’: South Abkhaz _a-č-áj-də-psa-la-ra_ ‘to press, to lean against something’, _a-g^{o}ə́-c’a-psa-ra_ ‘to press itself against somebody, to cross the hands at the bosom’, _a-c’a-psa-ra_ ‘to bend, to kneal’, _a-č-áj-k’^{o}a-psa-ra_ ‘to curl up, to fold up (wings)’; Abaza/Tapanta _pra-psá_ ‘curtain, apron’, _pəra-psa-ra_ ‘to tie up through’, _j-a-l-pəra-l-psa-d_ ‘she put on the apron’ (literally ‘she tied up the apron’).

117. Proto-Indo-European *_p^{h}et^{h}-_/*_p^{h}ot^{h}-_ ‘to fly, to rush, to pursue; to fall, to fall down’: Hittite _pát-tar_ ‘wing’, (3rd pl. pres.) _pít-ti-(ya-)an-zi_ ‘to flee, to fly, to hasten’; Sanskrit _pátati_ ‘to fly, to soar, to rush on; to fall down or off; to set in motion, to set out on foot; to rush on, to hasten’, (causative) _patáyati_ ‘to fly or move rapidly along, to speed’, _pátram_ ‘wing, feather’, _pátvan-_ ‘flying, flight’; Greek πέτομαι ‘to fly; (also of any quick motion) to fly along, to dart, to rush; to be on the wing, to flutter’, πίπτω ‘to fall, to fall down’, πτερόν ‘feather, bird’s wing’; Latin _petō_ ‘to make for, to go to, to seek’; Old Irish _én_ (< *_ethn-_ < *_pet-no-s_) ‘bird’; Welsh _edn_ ‘bird’; Old Breton _etn-_ ‘bird’; Old Icelandic _fjöðr_ ‘feather, quill’; Old English _feþer_ ‘feather’, (pl.) _feþra_ ‘wings’; Old Frisian _fethere_ ‘feather’; Old Saxon _fethara_ ‘feather’; Old High German _fedara_ ‘feather’, _fettāh_ ‘wing’.

Northwest Caucasian: Common Abkhaz (reduplicated) *_pat-pátə_: South Abkhaz _a-pat-pát-ra_ ‘to flutter, to quiver (of bird); to flounder, to wallow’; Bzyp _a-pat-mát-ra_ ‘to flutter, to quiver (of bird); to flounder, to wallow’.

118. Proto-Indo-European *_p^{h}ē̆(y/i)-_ ‘to hurt, to harm, to attack’: Gothic _fijands_ ‘enemy’; Old Icelandic _fjándi_ ‘enemy, foe’; Old English _fēonds_ ‘enemy’.

Northwest Caucasian: Proto-Circassian *_p:əyə_ ‘enemy’ (/p:/ = unaspirated /p/): Bžedux _p:əyə_ ‘enemy’; Kabardian _bəy_ ‘enemy’.

119. Proto-Indo-European *_p^{h}oʔ-t^{h}-lo-m_ (> *_p^{h}ō-t^{h}-lo-m_) ‘drinking-vessel’ (*_ʔ_ = *_ə̧$_{1}$_): Sanskrit _pā́tra-m_ ‘drinking-vessel, goblet, bowl, cup’; Latin _pōculum_ ‘a drinking-cup, goblet’. Note also: Hittite _pa-aš-zi_ ‘to swallow, to gulp down’; Sanskrit _pā́tar-_, _pātár-_ ‘one who drinks, a drinker’, _píbati_ ‘to drink’; Latin _pōtō_ ‘to drink’, _pōtus_ ‘drunk’; Lithuanian _puotà_ ‘feast, banquet, drinking-bout’.

Northwest Caucasian: Common Abkhaz *_pátx̌'a_: South Abkhaz _a-pátx̌'_ ‘horn used for drinking wine’.

120. Proto-Indo-European *_p^{h}os-_ ‘behind, after; afterwards, subsequently, at a later time’: Latin _post_ (adv.) ‘behind, in the rear; after, afterwards, subsequently; shortly afterwards; (prep.) behind, after’; Sanskrit (adv.) _paścā́_ ‘being behind, posterior, later; afterwards; behind, at the back, after; at a later time, subsequently, at last’; Greek (dial.) πός ‘at, to’; Lithuanian _pàs_ ‘near, at, by, to, with’; Old Church Slavic _pozdě_ ‘late’; Russian _pózdij_ [поздий] ‘late, tardy’.

Northwest Caucasian: Proto-Circassian _*pʰasa_ 'early, long ago': Bžedux _pʰāsa_ 'early, long ago'; Kabardian _pāsa_ 'early, long ago'. Common Abkhaz _*pása_: South Abkhaz _a-pása_ 'early, earlier'; Abaza/Tapanta _pása_ 'early, earlier'.

121. Proto-Indo-European _*pʰotʰ-i-_ 'one who is strong, powerful, able, capable, master of': Sanskrit _páti-ḥ_ 'master, owner, possessor, lord, ruler, governor, sovereign; husband'; Greek πόσις 'husband'; Latin _potis_ 'able, capable', _potior_ 'to get, to obtain, to gain possession of; to possess, to have, to be master of'; Gothic _-faþs_ in _bruþ-faþs_ 'bridegroom'; Old Lithuanian _patìs_ 'oneself, himself, itself'; Tocharian A _pats_, B _pets_ 'husband'.

Northwest Caucasian: Proto-Circassian _*p:ət:a_ 'strong, solid': Bžedux _p:ət:a_ 'strong, solid'; Kabardian _bəda_ 'strong, solid, stingy'.

122. Proto-Indo-European _*pʰr̥-kʰ-_ 'glowing embers, ashes': Lithuanian _pirkšnìs_ 'glowing cinders', _pir̃kšnys_ 'glowing ashes'; Old Irish (nom.-acc. pl.) _richsea_ 'live coals'; Breton _régez_ 'glowing embers'.

Northwest Caucasian: Common Abkhaz _*pərɣá_: South Abkhaz _a-pərɣə́_ 'embers'; Abaza/Tapanta _pərɣá_ 'embers'.

123. Proto-Indo-European _*p'elo-_ 'strong, powerful; big, large, great': Sanskrit _bála-m_ 'power, strength, might, vigor; force, violence, rigor, severity', _balín-_ 'powerful, strong, mighty, vigorous, stout, robust'; Greek βελτίων, βέλτερος, comparative of ἀγαθός, 'better, more excellent'; Latin _dē-bilis_ 'feeble, weak' (= _dē-_ 'without' + _*bilis_ 'strength' [not otherwise attested in Latin]); Old Church Slavic _boljьjь_ 'bigger, better'; Russian _ból'šij_ [больший] 'greater', _bol'šój_ [большой] 'big, large'.

Northwest Caucasian: Common Abkhaz (reduplicated) _*p'ələ́-p'ələ_: South Abkhaz _a-p'ələ́p'əl-ra_ 'to swarm, to teem with something'.

124. Proto-Indo-European _*seħ̮hʷ-_ [_*saħ̮hʷ-_] (unattested) 'to be or become hot, warm; to heat up, to make hot, to warm, to burn'; only found with the suffixes _*-(e)l-_, _*-(e)n-_: _*seħ̮hʷ-(e)l-_ (> _*sāwel-_), _*sħ̮hʷ-ōl-_ (> _*swōl-_), (_*səħ̮hʷ-l-_ >) _*suħ̮hʷ-l-_ (> _*sūl-_); _*sħ̮hʷ-en-_ (> _*swen-_), _*səħ̮hʷ-n-_ > _*suħ̮hʷ-n-_ (> _*sūn-_), etc. 'the sun' (_*ħ̮hʷ_ = _*ə̥₂ʷ_): Greek ἥλιος (Doric ἅλιος, ἀέλιος; Epic Greek ἠέλιος; Aeolian and Arcadian ἀέλιος; Cretan ἀβέλιος [that is, ἀϝέλιος]) (< *σᾱϝέλιος) 'the sun'; Latin _sōl_ (< _*swōl-_ < _*sħ̮hʷ-ōl-_) 'the sun'; Old Irish _súil_ 'eye'; Welsh _haul_ 'the sun'; Gothic _sauil_ (< Proto-Germanic _*sōwilō_) 'the sun', _sugil_ 'the sun', _sunnō_ 'the sun' (< Proto-Germanic _*sun-ōn_, with _-nn-_ from the gen. sg. _*sunnez_ < _*s(w)n̥-_ < _*sħ̮hʷ-n̥-_); Old Icelandic _sól_ 'the sun', _sunna_ 'the sun'; Old English _sōl_ 'the sun', _sigel_, _segl_, _sægl_, _sygil_ 'the sun', _sunne_ 'the sun'; Old Saxon _sunna_ 'the sun'; Old High German _sunna_ 'the sun'; Lithuanian _sáulė_ 'the sun'; Latvian _saũle_ 'the sun'; Avestan _hvarə_ 'the sun', (gen. sg.) _xᵛə̄ng_ (< _*swen-s_); Sanskrit _svàr-_ (_súvar-_) 'the sun', (gen. sg. _sū́raḥ_), _sū́rya-ḥ_ 'the sun'.

Proto-Indo-European _*sħ̮hʷ-elH-/*sħ̮hʷ-olH-/*sħ̮hʷ-l̥H-_ (> _*swelH-/*swolH-/*swl̥H-_) 'to burn': Greek εἵλη, ἕλη 'warmth, heat of the sun', ἀλέα (Ionic ἀλέη) 'warmth (of the sun), heat (of fire)'; Old English _swelan_ 'to burn, to burn up; to inflame (of a wound)', _swol_ 'heat, burning, flame, glow'; Old High German _swilizôn_ 'to burn slowly'; Lithuanian (caus.) _svìlinti_ 'to singe, to parch, to burn', _svi̧lù_, _svilaũ_, _svìlti_ 'to scorch, to parch'.

Northwest Caucasian: Proto-Circassian _*saxᵒa_ 'ashes': Kabardian _sāxᵒa_ 'ashes'.

125. Proto-Indo-European _*sem-/*som-_ 'together, together with; one' (originally 'to gather together'): Sanskrit _sa_ (< _*sm̥-_) 'with, together with, along with', _sám_ 'with, together with, along with, together, altogether', _sa-trā́_ 'together, together with', _sámana-ḥ_ 'meeting, assembly, amorous union, embrace', _samūbhá-ḥ_ 'heap, collection'.

Northwest Caucasian: Proto-Circassian _*sama_ 'heap': Bžedux _sāma_ 'heap'; Kabardian _sāma_ 'heap'.

126. Proto-Indo-European _*sew(H)-/*sow(H)-/*su(H)-_ 'to give birth': Sanskrit *sū́te*, *sūyate* 'to beget, to procreate, to bring forth, to bear, to produce, to yield', *suta-ḥ* 'son, child', *sūtí-ḥ* 'birth, production', *sūnú-ḥ* 'son, child, offspring'; Avestan *hunu-š* 'son'; Greek υἱύς, υἱός 'son'; Old Irish *suth* 'offspring'; Gothic *sunus* 'son'; Old Icelandic *sunr*, *sonr* 'son'; Old English *sunu* 'son'; Old Saxon *sunu* 'son'; Old High German *sunu* 'son'; Lithuanian *sūnùs* 'son'; Old Church Slavic *synъ* 'son'; Russian *syn* [сын] 'son'; Tocharian A *se*, B *soy* 'son'.

Northwest Caucasian: Proto-Circassian _*śawa_ 'youth': Bžedux *śāwa* 'youth, especially bridegroom'; Kabardian *śāwa* 'youth, especially bridegroom'; Temirgoy also 'son'. Note: Kuipers (1975:32) writes _*şawa_ 'youth, especially bridegroom'.

127. Proto-Indo-European (prefix) _*su-_ 'well, good': Sanskrit *sú* (also *sū́* in the Rigveda) 'good, excellent, right, virtuous, beautiful, easy, well, rightly, much, greatly, very, any, easily, quickly, willingly' in *su-kṛt-á-ḥ* 'a good or righteous deed, a meritorious act, virtue, moral merit; a benefit, bounty, friendly assistance, favor; good fortune, auspiciousness; reward, recompense', *su-kṛ́t-* 'doing good, benevolent, virtuous, pious; fortunate, well-fated, wise; making good sacrifices or offerings; skillful', *su-kára-ḥ* 'easy to be done, easy to be managed, easily achieving', benevolence', *su-kára-m* 'doing good, charity, *su-divá-ḥ* 'a bright or fine day', *su-mánas-* 'well disposed', etc.; Greek ὑ- in ὑ-γιής 'sound, healthy', ὑ-γίεια 'soundness, health', etc.; Old Irish *su-*, *so-* 'good' in *so-chor* 'good contract', *su-aitribthide* 'habitable', *so-lus* 'bright', etc.; Welsh *hy-* in *hy-gar* 'well-beloved, lovable', *hy-dyn* 'tractable', *hy-fryd* 'pleasant', etc.; Old Icelandic *sú-* in *sú-svort* 'nightingale' (this word is obsolete in Icelandic); Lithuanian *sū-* in *sū-drùs* 'luxuriant', etc.; Old Church Slavic *sъ-* in *sъ-dravъ* 'healthy', *sъ-mrьtь* (< _*su-mr̥t^{h}i-_) 'death', etc.

Northwest Caucasian: Proto-Circassian _*ś'^{o}(a)_ 'good', _*ś'^{o}əś'a_ 'beneficent; benefit, good deed', _*ś'^{o}əč''a_ 'gratitude': Kabardian *f'ə* 'good', *f'əś'a* 'beneficent; benefit, good deed', *f'əś'a* 'gratitude'; Bžedux *ś'^{o}ə* 'good', *ś'^{o}əś'a* 'beneficent; benefit, good deed', *ś'^{o}əč''a* 'gratitude'. Note: Kuipers (1975:32) writes _*ş̓^{o}(a)_ 'good'.

128. Proto-Indo-European _*(s)t^{h}eh-_ [_*(s)t^{h}ah-_] (> _*(s)t^{h}ā-_) 'to stand' (_*h_ = _*ə̥$_{4}$_): Sanskrit (reduplicated) *tíṣṭhati* 'to stand'; Greek (reduplicated) ἵστημι (Doric ἵστᾱμι) 'to stand'; Latin (reduplicated) *sistō* 'to cause to stand, to put, to place', *status* 'standing, standing position'; Luwian *tā-* 'to step, to arrive'. Note also: Hittite *ištantāye/a-* 'to stay put, to linger, to be late'; Gothic *standan* 'to stand'; Old Icelandic *standa* 'to stand'; Old English *standan* 'to stand'; Old Saxon *standan* 'to stand'; Old High German *stantan* 'to stand'.

Northwest Caucasian: Proto-Circassian _*t^{h}ə_ 'to stand': Bžedux *t^{h}ə* 'to stand'; Kabardian *tə* 'to stand' (only with local prefixes). Common Abkhaz _*ta_ 'stand, place of, home': South Abkhaz *a-tá-zaa-ra*, *a-ta-rá* 'to be inside', *a-t-rá* 'place of something', *ta-* (preverb) 'inside'; Abaza/Tapanta *tá-z-la-ra* 'to be inside', *ta-rá* 'place of something', *ta-* (preverb) 'inside', *ta* 'stand, place of, home'.

129. Proto-Indo-European _*t^{h}el-k^{h}-/*t^{h}ol-k^{h}-/*t^{h}l̥-k^{h}-_ 'to push, to thrust, to knock, to strike': Welsh *talch* 'fragment, flake'; Old Irish *tolc*, *tulc* 'blow, strike'; Old Church Slavic *tlъkǫ*, *tlěšti* 'to knock'; Russian *tolkat'* [толкать] 'to push, to shove', *tolkač* [толкач] 'stamp; pusher'; Czech *tlak* 'pressure'.

Northwest Caucasian: Proto-Circassian _*t:aλa_ 'to splash, to threaten; to shake (fist), to wave threateningly; to rattle (the saber)': Temirgoy *tāλa* 'to splash, to threaten', *ǧa-taλa-n* 'to shake (fist), to wave threateningly; to rattle (the saber)'; Kabardian *dāλa* 'to splash, to threaten', *ǧa-dāλa* 'to shake (fist), to wave threateningly; to rattle (the saber)'.

130. Proto-Indo-European _*t^{h}er-s-_, _*t^{h}r-es-_ 'to tremble, to shake': Sanskrit *trásati* 'to tremble, to quiver'; Avestan *tərəs-* 'to be afraid'; Greek τρέω 'to tremble, to quiver'; Latin *terreō* 'to frighten, to terrify', *terror* 'fright, fear, terror, alarm, dread'.

Proto-Indo-European *_t^{h}r-em-_/*_t^{h}r-om-_/*_t^{h}r-m̥-_ 'to tremble, to shake': Greek τρέμω 'to tremble, to quiver', τρόμος 'a trembling, quaking, quivering (especially with fear)'; Latin _tremō_ 'to tremble, to quake'; Old Church Slavic _tręsǫ_, _tręsti_ 'to shake'; Tocharian A _träm-_ 'to be furious', B _tremi_ 'anger'.

Northwest Caucasian: Common Abkhaz *_trə́ś́ə_: Bzyp _á-trəś-ra_ 'to startle', Abzhywa _a-trə́s-ra_ 'to startle'; Abaza/Tapanta _trə́s-ra_ 'to rush, to throw oneself towards something; to attack'.

131. Proto-Indo-European *_t^{h}op^h-_ 'place, region, locality' (only in Greek): Greek τόπος 'place, region, locality'.

Northwest Caucasian: Common Abkhaz *_tə́pə_: South Abkhaz _a-tə́p_ 'place, stand, halt, hut'; Ashkharywa _a-tə́p_ 'place, locality'; Abaza/Tapanta _təp_ 'hut of a shepherd, hunter, mower; imprint; place chosen for a building'.

132. Proto-Indo-European *_t'eA^w-_ [*_t'aA^w-_] (> *_t'āw-_) 'to burn, to blaze': Sanskrit _dāvá-ḥ_ 'forest fire', _dāváyati_ 'to burn, to consume by fire'; Greek δαίω (< *δαϝ-ι̯ω) 'to light up, to make to burn, to kindle; to blaze, to burn fiercely', δαΐς 'firebrand, pine-torch', (Homeric) δάος 'torch'.

Northwest Caucasian: Common Abkhaz *_t'ə́ɦ^{o}a_: South Abkhaz _a-t'ə́j^o_ 'monster swallowing sun or moon (during eclipse)', _a-t'ə́j^o-k'-ra_ 'solar/lunar eclipse'; Bzyp _a-t'^{o}ə́j^o_, _a-t'^{o}ə́ja_ 'monster swallowing sun or moon (during eclipse)'; Ahchypsy _a-t'ə́j^o_ 'monster swallowing sun or moon (during eclipse)'. Note: Labialization in Bzyp and Ahchypsy may be secondary.

133. Proto-Indo-European *_t'eh-_ [*_t'ah-_] (> *_t'ā-_) 'to flow', *_t'eh-nu-_ [*_t'ah-nu-_] (> *_t'ā-nu-_) 'flowing water; river, stream' (only in Indo-Iranian) (*_h_ = *_ə̯$_4$_): Sanskrit _dā-na-m_ 'the fluid flowing from an elephant's temples when in rut', _dā́-nu_ 'a fluid, a drop, dew'; Avestan _dānuš_ 'river, stream'; Ossetic _don_ 'water, river'. Also used in various river names: Don (Russian Дон), Dniepr (Russian Днепр), Dniestr (Russian Днестр), Danube, etc.

Northwest Caucasian: Common Abkhaz *_t'a_: Abzhywa _a-t'-rá_ 'diarrhea'; Bzyp _a-t'a-rá_ 'diarrhea'.

134. Proto-Indo-European (extended form) *_t'er-b^h-_/*_t'or-b^h-_/*_t'r̥-b^h-_ 'to bend, to twist (together)': Sanskrit _dṛbháti_ 'to string together, to arrange, to tie, to fasten'; Old English _tearflian_ 'to turn, to roll, to wallow'; Old High German _zerben_ 'to be twisted'.

Northwest Caucasian: Common Abkhaz *_t'arə́_: South Abkhaz _á-t'ar-ra_ 'to be flexible, viscous, bending'; Abzhywa (reduplicated) _á-t'ar-t'ar-ra_ 'tall and lithe, elegant (of man)'. Common Abkhaz (reduplicated) *_t'ərə́-t'ərə́_: Bzyp _á-t'ər-t'ər-ra_ 'tall and lithe, elegant (of man)'.

135. Proto-Indo-European *_t'es-_/*_t'os-_ 'to become weak, exhausted' (only in Sanskrit): Sanskrit _dásyati_ 'to suffer want, to waste away, to perish; to become exhausted; to be ruined', _dasana-m_ 'wasting, perishing, destroying'.

Northwest Caucasian: Proto-Circassian *_t'aSx̌a_ 'to become weak/shaky': Temirgoy _t'āsx̌a_ 'to become weak/shaky, unstable; vulnerable spot'; Kabardian _t'āsx̌a_ 'to become weak/shaky, unstable; vulnerable spot'; Bžedux _t'ax̌să_ (< *_t'aSx̌a_) 'weak, exhausted'. Circassian (Bžedux) loan in Abkhaz: South Abkhaz _a-t'áɣsa_ 'weak, languid, exhausted (often of an ill person)'; Abaza/Tapanta _t'ax̌sa_ 'not strong, weak, poor'.

136. Proto-Indo-European *_t'ew-_/*_t'ow-_/*_t'u-_ 'to hit, to strike': Old Irish _dorn_ 'fist', _·durni_ 'to strike with fists'; Welsh _dwrn_ 'fist'; Breton _dourn_ 'hand'; Old Icelandic _tjón_ 'damage, loss', _týna_ 'to lose, to destroy, to put to death', (reflexive) _týnast_ 'to perish', _týning_ 'destruction'; Old English _tēona_ 'injury, suffering, injustice, wrong, insult, contumely, quarrel', _tēonian_ 'to irritate', _tīenan_ 'to annoy, to

irritate'; Old Saxon *tiono* 'evil, harm, injury, wrong, hostility, enmity', *gitiunian* 'to do wrong'; Latvian *dùre*, *dûris* 'fist', *duŕu*, *dũru*, *duȓt* 'to sting, to thrust'.

Northwest Caucasian: Proto-Circassian **t'awə* 'to bump (one's head)': Temirgoy *ya-t'awə* 'to bump (one's head)'.

137. Proto-Indo-European (**t'or-/*t'r-*) (extended forms) **t'r-eA-* [**t'r-aA-*] > **t'rā-*; **t'r-em-/*t'r-om-/*t'r-m̥-*; **t'r-ew-/*t'r-ow-/*t'r-u-* 'to run, to flow': Sanskrit *drā́ti* 'to run, to hasten', *drámati* 'to run about, to roam, to wander', *drávati* 'to run, to hasten', *dravá-ḥ* 'running, flowing', *dravantī* 'river', *druta-ḥ* 'speedy, swift'; Greek δρησμός 'flight, running away', (aor.) ἔδραμον 'to run, to move quickly', δρόμος 'course, running, race'; Gothic *trudan* 'to tread, to step'; Old Icelandic *troða* 'to tread'; Old English *tredan*, 'to tread, to step on, to trample', *treddian* 'to tread, to walk', *trod* (f. *trodu*) 'track, trace'; Old Frisian *treda* 'to tread'; Old Saxon *tredan* 'to tread'; Old High German *tretan* 'to tread', *trottōn* 'to run'.

Northwest Caucasian: Proto-Circassian **t'ara* 'to sport, to gambol (of a horse)': Temirgoy *t'ara-n* 'to sport, to gambol (of a horse)'. Proto-Circassian **t'ərza* 'to sport, to gambol (of a horse)': Temirgoy *t'ərza* 'to sport, to gambol (of a horse)'.

138. Proto-Indo-European (**t'uʔʷ-o-*, **t'uʔʷ-i-* >) **t'(u)wo-*, **t'(u)wi-* 'two' (**ʔʷ* = **ə̯*$_1$ʷ): Sanskrit (m.) *dváu*, *dvā́* (Vedic also *duváu*, *duvā́*), (f./n.) *dvé* (Vedic also *duvé*), *dvi-* (in composition) 'two', *dviká-ḥ* 'consisting of two', *dvíḥ* 'twice'; Avestan (m.) *dva*, (f./n.) *baē* 'two', *biš* 'twice'; Greek δύω 'two' (uninflected δύο), δίς 'twice, doubly'; Latin *duo*, (f.) *duae* 'two', *bīnī* 'twofold, twice', *bis* 'twice'; Old Irish *dáu*, *dóu*, *dó* 'two', *dé-* (in composition) 'two-, double'; Old Welsh *dou* 'two'; Albanian (Gheg) (m.) *dy*, (f.) *dȳ* 'two'; Gothic (m.) *twai*, (f.) *twōs*, (n.) *twa* 'two'; Old Icelandic (m.) *tveir*, (f.) *tvær*, (n.) *tvau* 'two', *tvennr*, *tvinnr* 'consisting of two different things or kinds, twofold, in pairs', *tví-* (in compounds) 'twice, double', *tvisvar*, *tysvar* 'twice'; Old English (m.) *twēgen*, (f./n.) *twā*, (n.) *tū* 'two', *twi-* (prefix) 'two', *twinn* 'double', *twiwa* 'twice'; Old Frisian (m.) *twēne*, *tvēne*, (f./n.) *tva* 'two', *twi-* (prefix) 'twice, double', *twia* (adv.) 'twice, double'; Old High German (m.) *zwēne*, (f.) *zwā*, *zwō*, (n.) *zwei* 'two', *zwi-* (prefix) 'twice, double'; Lithuanian (m.) *dù*, (f.) *dvì* 'two'; Latvian (m./f.) *divi* 'two'; Old Prussian (m./f.) *dwai* 'two'; Old Church Slavic (m.) *dъva*, (f./n.) *dъvě* 'two'; Hieroglyphic Luwian *tuwa-* 'two'; Lycian *kbi-*, (Milyan) *tbi-* 'two'.

Northwest Caucasian: Proto-Circassian **Tq'ᵒ(a)* 'two': Kabardian *t'ʔᵒə* 'two (twice)'; Bžedux *t'ᵒ(a)* 'two (twice)'; Temirgoy *t'ᵒə* 'two'; Ubykh *t'q'ᵒa* 'two'. Abkhaz *ʕᵒə* (< **tʕᵒə* < **t'q'ᵒə*) 'two' (personal communication from John Colarusso).

139. Proto-Indo-European **we-/*wŏ̄-* 'you' (dual and pl.): Sanskrit *vas* 'you' (acc. pl.), *vām* (acc.-dat.-gen. dual); Avestan *vā* 'you' (nom. dual), *vaēm* (nom. pl.), *vā̊* (encl. acc. pl.); Latin *vōs* 'you' (nom.-acc. pl.), *vestrum* (gen. pl.); Old Church Slavic *vy* 'you' (nom. pl.), *vasъ* (acc.-gen.-loc. pl.).

Northwest Caucasian: Proto-Circassian **wa* 'you' (sg.): Bžedux *wa* 'you' (sg.); Kabardian *wa* 'you' (sg.). Common Abkhaz **wa(-rá)*: South Abkhaz *wa-rá* 'you' (male/human, non-human); Ashkharywa *wa-rá* 'you' (male/human, non-human); Abaza/Tapanta *wa-rá* 'you' (male/human, non-human).

140. Proto-Indo-European **weʕ͜ɦ-* [**waʕ͜ɦ-*]/**woʕ͜ɦ-* > **wā-/*wō-* 'to call, to cry out'(**ʕ͜ɦ* = **ə̯*$_3$): Greek ἠχή (< *Ϝᾱχᾱ́) 'sound, noise'; Latin *vāgiō* 'to cry, to whimper'; Gothic *wōpjan* 'to call, to cry out'; Old Icelandic *œpa* 'to cry, to shout; to call, to cry out (to someone)', *óp* 'shout, shouting; crying, weeping'; Old English *wēpan* 'to weep' (past participle *wōpen*), *wōp* 'weeping'; Old Frisian *wēpa* 'to cry aloud'; Old Saxon *wōpian* 'to bewail'; Old High German *wuoffen*, *wuofan* 'to bewail', *wuof* 'weeping, sobbing'; Old Church Slavic *vabljǫ*, *vabiti* 'to call, to entice'.

Northwest Caucasian: Common Abkhaz **wáwə*: South Abkhaz *a-wáw* ‘weeping, crying (at funerals)’; Abaza/Tapanta *waw* ‘cry’. Common Abkhaz (reduplicated) **wə́wə*: Abaza/Tapanta *wə́w-ra* ‘to howl’, *wəw* ‘howl’; South Abkhaz *a-wwə́-ra* ‘to howl’.

141. Proto-Indo-European **wedʰ-*/**wodʰ-* ‘to strike’: Sanskrit *vadh-* ‘to strike, to slay, to kill, to put to death, to destroy, to murder’, *vadhar-* ‘a destructive weapon, the weapon or thunderbolt of Indra’; Avestan *vadar-* ‘weapon (for striking)’; Lithuanian *vedegà* ‘adz’; Tocharian B *wät-* ‘to fight’.

Northwest Caucasian: Common Abkhaz **wadə́šx̌x̌ə*: South Abkhaz *a-wadə́šx̌x̌ə-ra* ‘(to break) into pieces’.

142. Proto-Indo-European **wel-*/**wol-*/**wl̥-* ‘to moisten, to wet, to flow’: (extended forms) **wel-kʰ-*/**wol-kʰ-*/**wl̥-kʰ-*; **wel-gʰ-*/**wol-gʰ-*/**wl̥-gʰ-*; **wel-k’-*/**wol-k’-*/**wl̥-k’-* ‘to wet, to moisten’: Old English *weolcen, wolcen* ‘cloud’; German *Wolke* ‘cloud’; Old Church Slavic *vlaga* ‘moisture’.

Northwest Caucasian: Proto-Circassian **wala* ‘cloud’: Kabardian *wāla* ‘cloud.

143. Proto-Indo-European **wel-*/**wol-*/**wl̥-* ‘to turn, to roll, to revolve’: Sanskrit *válati*, *válate* ‘to turn, to turn around, to turn to’; Armenian *gelum* ‘to twist, to press’, *glem* ‘to roll’, *glor* ‘round’; Greek εἰλέω (< *ϝελ-ν-έω) ‘to roll up, to pack close, to wind, to turn around, to revolve’, εἰλύω ‘to enfold, to enwrap’; Latin *volvō* ‘to roll, to wind, to turn around, to twist around’; Old Irish *fillid* ‘to fold, to bend’; Gothic *af-walwjan* ‘to roll away’, *at-walwjan* ‘to roll to’; Old Icelandic *valr* ‘round’, *velta* ‘to roll’, *válka* ‘to toss to and fro, to drag with oneself’, *válk* ‘tossing to and fro (especially at sea)’; Old English *wielwan* ‘to roll’, *wealwian* ‘to roll’, *wealte* ‘a ring’, *wealcan* ‘to roll, to fluctuate (intr.); to roll, to whirl, to turn, to twist (tr.)’, *wealcian* ‘to roll (intr.)’, *gewealc* ‘rolling’, *welung* ‘revolution (of a wheel)’; Middle English *walken* ‘to walk, to roll, to toss’, *walkien* ‘to walk’; Middle Dutch *welteren* ‘to roll’, *walken* ‘to knead, to press’; Old High German *walzan* ‘to roll, to rotate, to turn about’, *walken, walchen* ‘to knead, to roll paste’; Tocharian B *wäl-* ‘to curl’.

Northwest Caucasian: Proto-Circassian **waλa* ‘to totter, to reel’: Bžedux *wāλa* ‘to totter, to reel’; Temirgoy *wāλa* ‘wave; to undulate’.

144. Proto-Indo-European **wen-*/**won-*/**wn̥-* ‘to dwell, to abide, to remain’: Proto-Germanic **wunan* ‘to dwell, to abide, to remain’ > Old Icelandic *una* ‘to be content in a place; to dwell, to abide’; Old English *wunian* ‘to dwell, to remain, to continue (in time and space); to inhabit, to remain in’, *wunung* ‘dwelling (act and place)’; Old High German *wonēn*, *wonan*, *wanēn* ‘to dwell, to remain’.

Northwest Caucasian: Proto-Circassian **wəna* ‘house’: Bžedux *wəna* ‘house’; Kabardian *wəna* ‘house’. Note: Abkhaz also has *ʕ°əna* ‘house’, which points to Proto-Northwest Caucasian **ĝuna* (personal communication from John Colarusso).

145. Proto-Indo-European **wer-*/**wor-*/**wr̥-* ‘to be turbulent, agitated, stirred up, raging’ (> ‘to strike or dash against’) (only in Greek: extended form: **wrāgʰ-* < **wr-eA-gʰ-* [*wr-aA-gʰ-*]): Greek (Ionic) ῥάσσω, (Attic) ῥάττω (< *ϝρᾰ́χ-ι̯ω) ‘to strike, to dash, to push’; (Ionic) ῥηχίη, (Attic) ῥᾱχία ‘the sea breaking on the shore, especially the flood-tide; the roar of waves breaking on the shore’.

Northwest Caucasian: Proto-Circassian **warə* ‘wave; turbulent’: Temirgoy *warə* ‘wave; turbulent’; Kabardian *war* ‘wave; turbulent’.

146. Proto-Indo-European **wer-*/**wor-* ‘to say, to speak, to tell’: Greek εἴρω (< *ϝερι̯ω) ‘to say, to speak, to tell’; Hittite (3rd sg. pres.) *ú-e-ri-ya-zi* ‘to invite, to summon, to name’; Palaic (3rd sg. pres.) *ú-e-er-ti* ‘to say, to call’; Latin *verbum* ‘word’; Gothic *waurd* ‘word’; Old Icelandic *orð* ‘word’, *orðigr* ‘wordy’, *yrða* ‘to speak’; Old English *word* ‘word’, *ge-wyrd(e)* ‘conversation’, *wordig* ‘talkative’; Old

Saxon _word_ 'word'; Dutch _woord_ 'word'; Old High German _wort_ 'word'; Old Prussian (nom. sg. m.) _wīrds_, _wirds_ 'word' (acc. sg. m. _wirdan_); Lithuanian _va͂rdas_ 'name'.

Northwest Caucasian: Common Abkhaz *_war-š_^{o}_/sár_: Bzyp _a-war-š_^{o}_ár_ 'to speak noisily, loudly'; Abaza/Tapanta _war-sár_ 'to speak noisily, loudly'.

147. Proto-Indo-European *_wes-no-m_ 'price', *_wes-_ 'to buy, to sell': Latin _vēnum_ (< *_wes-no-m_) 'sale'; Sanskrit _vasná-m_ 'price, value'; Hittite _uš-ša-ni-ya-zi_ 'to put up for sale'; Greek ὦνος (< *_wós-no-s_) 'price'.

Northwest Caucasian: Proto-Circassian *_wasa_ 'price': Bžedux _wāsa_ 'price'; Kabardian _wāsa_ 'price'.

148. Proto-Indo-European (adj.) *_word_^{h}_-o-s_ 'grown, full-grown, tall, upright', (adj.) *_wr̥d_^{h}_-o-s_ 'raised, upright, tall', (verb stem) *_werd_^{h}_-_/*_word_^{h}_-_/*_wr̥d_^{h}_-_ 'to raise, to elevate; to grow, to increase': Sanskrit _várdha-ḥ_ 'increasing, growing, thriving', _vr̥ddhá-ḥ_ 'grown, become larger or longer or stronger, increased, augmented, great, large; experienced, wise, learned; eminent in, distinguished by', _vr̥ddhi-ḥ_ 'growth, increase, augmentation, rise, advancement'.

Northwest Caucasian: Proto-Circassian *_warq:ə_ 'nobleman': Temirgoy _warqə_ 'nobleman'; Kabardian _warq'_ 'nobleman'. Note: These may be late loans from Indo-Aryan (personal communication from John Colarusso).

149. Proto-Indo-European *_yenH-t_^{h}_er-_/*_yn̥H-t_^{h}_er-_ 'female in-law by marriage: sister-in-law, husband's brother's wife': Sanskrit _yātar-_ 'husband's brother's wife'; Greek (f.) ἐνάτηρ 'husband's brother's wife', (Homeric) (pl.) εἰνατέρες 'wives of brothers or of husband's brothers, sisters-in-law'; Latin (pl.) _ianitricēs_ 'wives of brothers'; Old Lithuanian _jéntė_ 'husband's brother's wife'; Old Church Slavic _jętry_ 'husband's brother's wife'.

Northwest Caucasian: Common Abkhaz *_jə́nə_: Abzhywa _a-jə́n_ 'female (of animals)'.

150. Proto-Indo-European *_yet_^{h}_-_/*_yot_^{h}_-_ 'to exert oneself, to endeavor, to strive': Sanskrit _yátati_, _yátate_ 'to exert oneself, to endeavor; to make, to produce', _yáti-ḥ_ 'a sage of subdued passions', _yatná-ḥ_ 'effort, endeavor, exertion, energy, diligence, perseverance'; Avestan _yateiti_, _yatayeiti_ 'to strive after; to place in order'; Tocharian B _yāt-_ 'to be capable of; to have power over, to tame'.

Northwest Caucasian: Proto-Circassian *_yat_^{h}_a_ 'to rage (of storm), to swell (of wound); to let oneself go, to become insolent': Temirgoy _yāta_ 'to rage (of storm), to swell (of wound); to let oneself go, to become insolent'; Kabardian _yāta_ 'to rage (of storm), to swell (of wound); to let oneself go, to become insolent'.

REFERENCES

Adams, Douglas Q.
1999 _A Dictionary of Tocharian B._ Amsterdam and Atlanta, GA: Editions Rodopi B.V.
[2013] [Second edition.]

Anthony, David W.
2007 _The Horse, the Wheel, and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World._ Princeton, NJ, and Oxford: Princeton University Press.
2008 "A New Approach to Language and Archaeology: The Ustovo Culture and the Separtion of Pre-Germanic", _Journal of Indo-European Studies_ 36.1/2:1—51.
2013 "Two IE Phylogenies, Three PIE Migrations, and Four Kinds of Steppe Pastoralism", _Journal of Language Relationship_ 9:1—21.

Anthony, David W., and Don Ringe

2015 “The Indo-European Homeland from Linguistic and Archaeo-logical Perspectives”, *Annual Review of Linguistics* 1:199—219.

Arkadiev, Peter M., and Yakov G. Testelets

2015 “On the Structure of Nominal Constructions in West Caucasian”. Paper presented at the 48th annual meeting of the Societas Linguistica Europaea, Leiden, 2—5 September 2015.

Bailey, H[arold] W[alter]

1979 *Dictionary of Khotan Saka*. Cambridge: Cambridge University Press.

Balanovsky, Oleg, Olga Utevska, and Elena Balanovska

2013 “Genetics of Indo-European Populations: The Past, the Future”, *Journal of Language Relationship* 9:23—35.

Bauer, Brigitte L. M.

2015 “Origins of Grammatical Forms and Evidence from Latin”, *Journal of Indo-European Studies* 43.1/2:201—235.

Beekes, Robert S. P.

1985 *The Origins of the Indo-European Nominal Inflection*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.

2010 *Etymological Dictionary of Greek*. With the assistance of Lucien van Beek. 2 vols. Leiden and Boston, MA: E. J. Brill.

Benveniste, Émile

1973 *Indo-European Language and Society*. English translation by Elizabeth Palmer. Coral Gables, FL: University of Miami Press.

Blažek, Václav

2014 “Indo-European Nominal Inflection in Nostratic Perspective”, *Journal of Language Relationship* 11:19—38.

Blench, Roger, and Matthew Spriggs (eds.)

1997 *Archaeology and Language I: Theoretical and Methodological Orientations*. London and New York, NY: Routledge.

Boisacq, Émile

1950 *Dictionnaire étymologique de la langue grecque: étudiée dans ses rapports avec les autres langues indo-européennes [Etymological Dictionary of the Greek Language: Studied in its Relationships with the Other Indo-European Languages]*. 4th edition, with an index by Helmut Rix (1st edition 1916). Heidelberg: Carl Winter.

Bomhard, Allan R.

1994 “Comments on Colarusso’s Paper ‘Phyletic Links between Proto-Indo-European and Proto-Northwest Caucasian’,” *Mother Tongue* 22:1—10.

2008 *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*. 2 vols. Leiden and Boston, MA: E. J. Brill.

2014 *A Comprehensive Introduction to Nostratic Comparative Linguistics: With Special Reference to Indo-European*. 1st edition, 4 vols., 2,258 pp. Open-access publication.

[2015] [2nd revised, corrected, and expanded edition (final revisions June 2017), 4 vols., 2,570 pp. Open-access publication.]

2016 “The Glottalic Model of Proto-Indo-European Consonantism: Re-igniting the Dialog”. *Slovo a slovesnost* 77:1—21.

Bomhard, Allan R., and John C. Kerns

1994 *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.

Bouckaert, Remco, Philippe Lemey, Michael Dunn, Simon J. Greenhill, Alexander V. Alekseyenko, Alexei J. Drummond, Russell D. Gray, Marc A. Suchard, and Quentin D. Atkinson

2012 “Mapping the Origins and Expansion of the Indo-European Language Family”, *Science* 337:957—960 (24 August 2012).

Boutkan, Dirk and Sjoerd Michiel Siebinga

2005 *Old Frisian Etymological Dictionary*. Leiden and Boston, MA: E. J. Brill.

Bowern, Claire

2013 "Relatedness as a Factor in Language Contact", *Journal of Language Contact* 6:411—432.

Buck, Carl Darling

1949 *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. Chicago, IL: University of Chicago Press.

[1988] [Paperback edition.]

Burlak, S[vetlana] A[natol'evna]

2013 "Languages, DNA, Relationship and Contacts", *Journal of Language Relationship* 9:55—67.

Catford, John C.

1968 "The Articulatory Possibilities of Man", in: Bertil Malmberg (ed.), *Manual of Phonetics*. Amsterdam: North-Holland Publishing Co., pp. 309—333.

1972 "Labialization in Caucasian Languages, with Special Reference to Abkhaz", in: André Rigault and René Charbonneau (eds.), *Proceedings of the Seventh International Congress of Phonetic Sciences*. The Hague: Mouton, pp. 679—682.

1976 "Ergativity in Caucasian Languages", in: Alan Ford, John Reighard, and Rajendra Singh (eds.), *Papers from the Sixth Meeting of the North Eastern Linguistic Society*. Montreal: McGill University, Université de Montréal, and Université du Québec à Montréal, pp. 37—48.

1977 "Mountain of Tongues: The Languages of the Caucasus", *Annual Review of Anthropology* 6:283—314.

1991 "The Classification of the Caucasian Languages", in: Sydney M. Lamb and E. Douglas Mitchell (eds.), *Sprung from Some Common Source: Investigations into the Prehistory of Languages*. Stanford, CA: Stanford University Press, pp. 232—268.

Cathcart, Chundra, Shinae Kang, and Clare S. Sandy (eds.)

2013 *Proceedings of the 37th Annual Meeting of the Berkeley Linguistics Society: Special Session on the Languages of the Caucasus*. Berkeley, CA: Berkeley Linguistics Society.

Chang, Will, Chundra Cathcart, David Hall, and Andrew Garrett

2015 "Ancestry-Constrained Phylogenetic Analysis Supports the Indo-European Steppe Hypothesis", *Language* 91.1:194—244.

Chantraine, Pierre

1968—1980 *Dictionnaire étymologique de la langue grecque. Histoire des mots. [Etymological Dictionary of the Greek Language. History of Words]*. 2 vols. Paris: Klincksieck.

Chirikba, Viacheslav A.

1996a *Common West Caucasian: The Reconstruction of Its Phonological System and Parts of Its Lexicon and Morphology*. Leiden: Research School CNWS.

1996b *A Dictionary of Common Abkhaz*. Leiden. The Author.

1999 "The West Caucasian Material in 'The North Caucasian Etymological Dictionary' by S. A. Nikolayev and S. A. Starostin". Leiden: CNWS Publications.

2003 *Abkhaz*. Munich: LINCOM Europa.

2008 "The Problem of the Caucasian Sprachbund", in: Pieter Muysken (ed.), *From Linguistic Areas to Areal Linguistics*. Amsterdam and Philadelphia, PA: John Benjamins, pp. 25—93.

2015 "From North to North-West". To appear in *Iran and the Caucasus*.

Clackson, James P. T.

2007 *Indo-European Linguistics: An Introduction*. Cambridge: Cambridge University Press.

Colarusso, John

1974 "Consonants with Advanced Tongue Root in the Northwest Caucasian Languages", in: Eileen Kaise and Jorge Hankamer (eds.), *Papers from the Fifth Annual Meeting, North Eastern Linguistic Society, Harvard University, November 9—10, 1974*.

1975a *The Northwest Caucasian Languages: A Phonological Survey*. Ph.D. dissertation, Harvard University. Published in book format by Garland Publishing in 1988 (reissued by Routledge in 2014, with corrections and emendations).

1975b "The Relationship between Aspiration and Nasalization in West Circassian", *Wiener Linguistische Gazette* 9:11—15

1978 "The Typology of Pharyngeals and Pharyngealization: Caucasian Examples". Paper presented at the Sixth Meeting (April 9—10, 1978) of the Toronto North American Conference on Afro-Asiatic Linguistics.

1979a "Verbs that Inflect for Kinship: Grammatical and Cultural Analysis", *Papiere zur Linguistik* 20.1:37—66.

1979b "Rightward Movement, Question Formation, and the Nature of Transformational Processes: The Circassian Case", *Papiere zur Linguistik* 21.2:27—73.

1979c "Caucasian Languages, North-Western. The People and Their Languages", in: Harry B. Weber (ed.), *The Modern Encyclopedia of Russian and Soviet Literature*. Ann Arbor, MI: Academic International Press, University of Michigan, vol. 3, pp. 225—234.

1979d "Phonemic Contrasts and Distinctive Features: Caucasian Examples", in: Paul R. Clyne, William F. Hanks, and Carol L. Hofbauer (eds.), *Papers from the Conference on Non-Slavic Languages of the USSR. The Elements: A Parasession on Linguistic Units and Levels*. Chicago, IL: Chicago Linguistic Society, University of Chicago, pp. 307—321.

1981 "Typological Parallels between Proto-Indo-European and the Northwest Caucasian Languages", in: Yoël L. Arbeitman and Allan R. Bomhard (eds.), *Bono Homini Donum: Essays in Historical Linguistics in Memory of J. Alexander Kerns*. Amsterdam: John Benjamins, part I, pp. 475—557.

1989 "Proto-Northwest Caucasian (or How to Crack a Very Hard Nut)", in: Howard Aronson (ed.), *The Non-Slavic Languages of the USSR, Linguistic Studies*. Chicago, IL: Chicago Linguistic Society, pp. 20—55.

1992a "Phyletic Links between Proto-Indo-European and Proto-Northwest Caucasian", in: Howard I. Aronson (ed.), *The Non-Slavic Languages of the USSR: Linguistic Studies (Second Series)*. Chicago, IL: Chicago Linguistic Society, pp. 19—54. Reprinted in *Mother Tongue* 21:8—20 (1994).

1992b *A Grammar of the Kabardian Language*. Calgary: University of Calgary Press.

1994 "Proto-Northwest Caucasian, or How to Crack a Very Hard Nut", *Journal of Indo-European Studies* 22.1/2:1—35.

1997 "Proto-Pontic: Phyletic Links between Proto-Indo-European and Proto-Northwest Caucasian", *Journal of Indo-European Studies* 25.1/2:119—151.

2002 "Post-Nostratic". Paper presented at the 5th CESS conference, 17—20 October 2002.

2003 "More Pontic: Further Etymologies between Indo-European and Northwest Caucasian", in: Dee Ann Holisky and Kevin Tuite (eds.), *Current Trends in Caucasian, East European, and Inner Asian Linguistics: Papers in Honor of Harold Aronson*. Leiden and Boston, MA: E. J. Brill, pp. 41—60.

2006 *Kabardian (East Circassian)*. Munich: LINCOM Europa.

2013 "The Typology of Gutturals", in: Jean Léo Léonard and Samia Naïm (eds.), *Base articulatoire arrière/Backing and Backness*. Munich: LINCOM Europa, pp. 93—109.

Collinder, Björn

1934 *Indo-uralisches Sprachgut: Die Urverwandtschaft zwischen der indoeuropäischen und der uralischen (finnisch-ugrisch-samojedischen) Sprachfamilie [Common Indo-Uralic Linguistic Possessions: The Primitive Relationship between the Indo-European and Uralic (Finno-Ugrian-Samoyed) Language Families]*. (= *Uppsala Universitets Årsskrift 1934, Filosofi, Språkvetenskap och Historiska Vetenskaper 1*.) Uppsala: A.-B. Lundequistska Bokhandeln, pp. 1—116.

1954 "Zur indo-uralische Frage" [Concerning the Indo-Uralic Question]. *Acta Universitatis Upsaliensis* 10:79—91.

1967 "Die indouralische Sprachvergleichung und die Laryngaltheorie" [The Indo-Uralic Linguistic Comparison and the Laryngeal Theory], *Die Sprache* 13:179—190.

1970 “Nachtrag zum Aufsatz ‘Die indouralische Sprachvergleichung und die Laryngaltheorie’” [Addenda to the Article “The Indo-Uralic Linguistic Comparison and the Laryngeal Theory”], *Die Sprache* 16:174—175.

De Vaan, Michiel

2008a *Etymological Dictionary of Latin and the Other Italic Languages*. Leiden and Boston, MA: E. J. Brill.

2008b “On Wanderwörter and Substrate Words in Etymological Research”, in: Marijke Mooijaart and Marijke van der Wal (eds.), *Yesterday’s Words: Contemporary, Current, and Future Lexicography*. Newcastle: Cambridge Scholars Press, pp. 199—207.

De Vries, Jan

1962 *Altnordisches etymologisches Wörterbuch [Old Norse Etymological Dictionary]*. 2nd edition. Leiden: E. J. Brill.

[1977] [Reprinted.]

1971 *Nederlands Etymologisch Woordenboek [Dutch Etymological Dictionary]*. Leiden: E. J. Brill.

Delamarre, X[avier]

1984 *Le vocabulaire indo-européen. Lexique étymologique thématique [The Indo-European Vocabulary: Thematic Etymological Lexicon]*. Paris: Adrien-Maisonneuve.

Derksen, Rick

2008 *Etymological Dictionary of the Slavic Inherited Lexicon*. Leiden and Boston, MA: E. J. Brill.

2014 *Etymological Dictionary of the Baltic Inherited Lexicon*. Leiden and Boston, MA: E. J. Brill.

Emonds, Joseph

1972 “A Reformulation of Grimm’s Law”, in: Michael K. Brame (ed.), *Contributions to Generative Phonology*. Austin, TX: University of Texas Press, pp. 108—122.

Ernout, Alfred, and Antoine Meillet

1979 *Dictionnaire étymologique de la langue latine: Histoire des mots [Etymological Dictionary of the Latin Language: History of Words]*. 4th edition. Paris: Klincksieck.

Falk, Hjalmar, and Alf Torp

1903—1906 *Etymologisk Ordbog over det Norske og det Danske Sprog [Etymological Dictionary of the Norwegian and Danish Languages]*. 2 vols. Kristiana: Forlagt af H. Aschehoug & Co. (W. Nygaard).

1910—1911 *Norwegisch-Dänisches etymologisches Wörterbuch [Norwegian-Danish Etymological Dictionary]*. 2 vols. Heidelberg: Carl Winter.

Feist, Sigmund

1939 *Vergleichendes Wörterbuch der gotischen Sprache [Comparative Dictionary of the Gothic Language]*. 3rd edition. Leiden: E. J. Brill.

Field, Fredric W.

2002 *Linguistic Borrowing in Bilingual Contexts*. Amsterdam and Philadelphia, PA: John Benjamins.

Fortson, Benjamin W., IV

2004 *Indo-European Language and Culture: An Introduction*. Oxford: Blackwell.

[2010] [2nd edition. Chichester: Wiley-Blackwell.]

Fraenkel, Ernst

1962—1965 *Litauisches etymologisches Wörterbuch [Lithuanian Etymological Dictionary]*. 2 vols. Heidelberg: Carl Winter.

Friedrich, Paul

1964 Review of Aert Kuipers, *Phoneme and Morpheme in Kabardian (Eastern Adyghe)*, *American Anthopologist* 66:205—209.

Frisk, Hjalmar

1970—1973 *Griechisches etymologisches Wörterbuch [Greek Etymological Dictionary].* 3 vols. Heidelberg: Carl Winter.

Gamkrelidze, Thomas V., and Vjačeslav V. Ivanov

1984 *Индоевропейский язык и индоевропейцы: Реконструкция и историко-типологический анализ праязыка и прото-культуры [Indo-European and the Indo-Europeans: A Reconstruction and Historical Typological Analysis of a Protolanguage and a Proto-Culture].* 2 vols. Tbilisi: Publishing House of the Tbilisi State University.

1995 *Indo-European and the Indo-Europeans: A Reconstruction and Historical Typological Analysis of a Protolanguage and a Proto-Culture.* 2 vols. English translation by Johanna Nichols. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.

Greenberg, Joseph H.

2000—2002 *Indo-European and Its Closest Relatives: The Eurasiatic Language Family.* 2 vols. Stanford, CA: Stanford University Press.

Haak, Wolfgang, etal.

2015 "Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe", *Nature*. Published on-line 2 March 2015.

Häkkinen, Jaakko

2012 "Uralic Evidence for the Indo-European Homeland". Manuscript.

Hamp, Eric P.

1965 "Evidence in Albanian", in: Werner Winter (ed.), *Evidence for Laryngeals*. The Hague: Mouton, pp. 123—141.

Haspelmath, Martin

2009 "Lexical Borrowing: Concepts and Issues", in: Martin Haspelmath and Uri Tadmor (eds.), *Loanwords in the World's Languages: A Comparative Handbook*. Berlin: De Gruyter Mouton, pp. 35—54.

Haudry, Jean

1982 *Préhistoire de la flexion nominale indo-européenne [Prehistory of Indo-European Noun Inflection].* Lyon: Institut d'Études Indo-Européennes de l'Université Jean Moulin (Lyon III).

Heggarty, Paul

2015 "Prehistory through Language and Archaeology", in: Claire Bowern and Bethwyn Evans (eds.), *The Routledge Handbook of Historical Linguistics*. London and New York, NY: Routledge, pp. 598—626.

Hewitt, B[rian] G[eorge]

1979 *Abkhaz*. In collaboration with Z. K. Khiba. Amsterdam: North-Holland Publishing Co.

2004 *Introduction to the Study of the Languages of the Caucasus*. Munich: LINCOM Europa.

2005 "North West Caucasian", *Lingua* 115:91—145.

Hickey, Raymond (ed.)

2010 *The Handbook of Language Contact*. Oxford and Malden, MA: Wiley-Blackwell.

Hofmann, J[ohann] B[aptist]

1966 *Etymologisches Wörterbuch des Griechischen [Etymological Dictionary of Greek].* Munich: R. Oldenbourg Verlag.

Holm, John

2004 *Languages in Contact: The Partial Restructuring of Vernaculars*. Cambridge: Cambridge University Press.

Hopper, Paul J.

1982 "Areal Typology and the Early Indo-European Consonant System", in: Edgar C. Polomé (ed.), *The Indo-Europeans in the Fourth and Third Millennia*. Ann Arbor, MI: Karoma Publishers, pp. 121—139.

Huld, Martin E.

1984 *Basic Albanian Etymologies*. Columbus, OH: Slavica Publishers, Inc.

Ivanov, Vjačeslav V.

1999 “Comparative Notes on Hurro-Urartian, Northern Caucasian and Indo-European”, in: Vjačeslav V. Ivanov and Brent Vine (eds.), *UCLA Indo-European Studies I*. Los Angeles, CA: University of California, Program in Indo-European Studies. 116 pp.

Ivanova, Mariya
2007 “The Chronology of the ‘Maikop Culture’ in the North Caucasus: Changing Perspectives”, *Armenian Journal of Near Eastern Studies* II:7—39.

Janhunen, Juha
1982 “On the Structure of Proto-Uralic”, *Finnisch-ugrische Forschungen* XLIV.1/3:59—76.
1983 “On Early Indo-European/Samoyed Contacts”, *Mémoires de la Société Finno-Ougrienne* 185:115—127.
1998 “Ethnicity and Language in Prehistoric Northeast Asia”, in: Roger Blench and Matthew Spriggs (eds.), *Archaeology and Language II: Correlating Archaeological and Linguistic Hypotheses*. London and New York, NY: Routledge, pp. 195—208.

Klein, Ernest David
1971 *A Comprehensive Etymological Dictionary of the English Language*. Amsterdam, London, New York, NY: Elsevier.

Kim, Ronald I.
2010 “The Indo-European, Anatolian, and Tocharian ‘Secondary’ Cases in Typological Perspective”. Manuscript.

Klimov, G[eorgij] A[ndrejevič]
1969 *Die kaukasischen Sprachen [The Caucasian Languages]*. German translation by Winfried Boeder. Hamburg: Helmut Buske.
1994 *Einführung in die kaukasische Sprachwissenschaft [Introduction to Caucasian Linguistics]*. Translated by J. Gippert. Hamburg: Helmut Buske.

Klimov, G[eorgij] A[ndrejevič], and M[adzhid] Sh[aripovich] Khalilov
2003 *Словарь кавказских языков: сопоставление основной лекснкн [Dictionary of the Caucasian Languages: A Comparison of the Basic Lexicon]*. Moscow: Vostochnaja Literatura RAN.

Kloekhorst, Alwin
2008a “Some Indo-Uralic Aspects of Hittite”, *Journal of Indo-European Studies* 36.1/2:88—95.
2008b *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden and Boston, MA: E. J. Brill.

Kluge, Friedrich, and Walther Mitzka
1967 *Etymologisches Wörterbuch der deutschen Sprache [Etymo-logical Dictionary of the German Language]*. 20th edition. Berlin and New York, NY: Walter de Gruyter.

Kluge, Friedrich, and Elmar Seebold
1989 *Etymologisches Wörterbuch der deutschen Sprache [Etymo-logical Dictionary of the German Language]*. 22nd edition. Berlin and New York, NY: Walter de Gruyter.

Kortlandt, Frederik
1990 “The Spread of the Indo-Europeans”, *Journal of Indo-European Studies* 18.1/2:131—140.
2010a *Studies in Germanic, Indo-European, and Indo-Uralic*. Amsterdam and New York, NY: Rodopi.
2010b “An Outline of Proto-Indo-European”. Manuscript.

Kroonen, Guus
2012 “Non-Indo-European Root Nouns in Germanic: Evidence in Support of the Agricultural Substrate Hypothesis”, *Mémoires de la Société Finno-Ougrienne* 266:219—260.
2013 *Etymological Dictionary of Proto-Germanic*. Leiden and Boston, MA: E. J. Brill.

Kuipers, A[ert] H[endrik]
1960 *Phoneme and Morpheme in Kabardian (Eastern Adyghe)*. The Hague: Mouton.
1962 “The Circassian Nominal Paradigm: A Contribution to Case-Theory”, *Lingua* 11:231—248.
1975 *A Dictionary of Proto-Circassian Roots*. Lisse: Peter de Ridder Press.

Kulikov, Leonid

2012 “The Proto-Indo-European Case System and Its Reflexes in a Diachronic Typological Perspective: Evidence for the Linguistic Prehistory of Eurasia”, *Revista degli Studi Orientali* LXXXIV/ 1—4:289—309.

Kuryłowicz, Jerzy

1964. *The Inflectional Categories of Indo-European*. Heidelberg: Carl Winter.

Lehmann, Winfred P.

1986 *A Gothic Etymological Dictionary*. Leiden: E. J. Brill.

1995 *Residues of Pre-Indo-European Active Structure and their Impli-cations for the Relationships among the Dialects*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.

2002 *Pre-Indo-European*. Washington, DC: Institute for the Study of Man.

Mailhammer, Robert, Theo Vennemann, and Birgit Anette Olsen (eds.)

2015 *The Linguistic Roots of Europe: Origin and Development of European Languages*. Copenhagen: Museum Tusculanum Press.

Mallory, James P.

1989 *In Search of the Indo-Europeans: Language, Archaeology and Myth*. London: Thames and Hudson.

Mallory, James P., and Douglas Q. Adams

2006 *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World*. Oxford and New York, NY: Oxford University Press.

Mallory, James P., and Douglas Q. Adams (eds.)

1997 *Encyclopedia of Indo-European Culture*. London and Chicago, IL: Fitzroy Dearborn Publishers.

Mann, Stuart E.

1984—1987 *An Indo-European Comparative Dictionary*. Hamburg: Helmut Buske.

Markey, Thomas L., and John A. C. Greppin (eds.)

1990 *When Worlds Collide: Indo-Europeans and Pre-Indo-Europeans. The Bellagio Papers*. Ann Arbor, MI: Karoma Publishers.

Martirosyan, Hrach

2008 *Studies in Armenian Etymology, with Special Emphasis on Dialects and Culture. Indo-European Heritage*. Ph.D. dissertation, Leiden University.

Matasović, Ranko

2009 *Etymological Dictionary of Proto-Celtic*. Leiden and Boston, MA: E. J. Brill.

2010 *A Short Grammar of East Circassian (Kabardian)*. Translated from Croatian with the help of Tena Gnjatović. Ninth version. Zagreb: The Author.

2012 “Areal Typology of Proto-Indo-European: The Case for Caucasian Connections”, *Transactions of the Philological Society* 110/2012:283—310.

Matras, Yaron

2009 *Language Contact*. Cambridge: Cambridge University Press.

Mayrhofer, Manfred

1956—1980 *Kurzegefaßtes etymologisches Wörterbuch des Altindischen [A Concise Etymological Dictionary of Old Indic]*. 4 vols. Heidelberg: Carl Winter.

1986—2001 *Etymologisches Wörterbuch des Altindoarischen [Etymological Dictionary of Old Indo-Aryan]*. 3 vols. Heidelberg: Carl Winter.

Nichols, Johanna

1992 *Linguistic Diversity in Space and Time*. Chicago, IL: The University of Chicago Press.

1994 “The Origin and Dispersal of Indo-European”. Preliminary version. Manuscript.

1997 “The Epicentre of Indo-European Linguistic Spread”, in: Roger Blench and Matthew Spriggs (eds.), *Archaeology and Language I: Theoretical and Methodological Orientations*. London and New York, NY: Routledge, pp. 122—148.

1998 “The Eurasian Spread Zone and the Indo-European Dispersal”, in: Roger Blench and Matthew Spriggs (eds.), *Archaeology and Language II: Correlating Archaeological and Linguistic Hypotheses*. London and New York, NY: Routledge, pp. 220—266.

2008 “Why Are Stative-Active Languages Rare in Eurasia? A Typological Perspective on Split-Subject Marking”, in: Mark Donohue and Søren Wichmann (eds.), *The Typology of Semantic Alignment*. Oxford: Oxford University Press, pp. 121—139.

Nikolaeva, Nadezhda A.

2012 “Индоевропейцы на северном кавказе в III-II тыс. до н. э. по данным лингвистики и археологии” [The Indo-Europeans in the North Caucasus (III-II mill. B.C.) in the Light of Linguistic and Archaeological Data], in: N. N. Kazansky (ed.), *Индоевропейское языкознание и классическая филология — XVI [Indo-European Linguistics and Classical Philology —XVI]*. St. Petersberg: Nauka, pp. 610—619.

Nikolayev, Sergej L., and Sergej A. Starostin

1994 *A North Caucasian Etymological Dictionary*. Moscow: Asterisk Publishers.

Olalde, Iñigo, Hannes Schroeder, Marcela Sandoval-Velasco, Lasse Vinner, Irene Lobón, Oscar Ramirez, Sergi Civit, Pablo García Borja, Domingo C. Salazar-García, Sahra Talamo, Josep María Fullola, Francesc Xavier Oms, Mireia Pedro, Pablo Martínez, Montserrat Sanz, Joan Daura, João Zilhão, Tomàs Marquèz-Bonet, M. Thomas P. Gilbert, and Carles Lalueza-Fox

2015 “A Common Genetic Origin for Early Farmers from Mediterranean Cardial and Central European LBK Cultures”. Manuscript.

Onions, C[harles] T[albot] (ed.)

1966 *The Oxford Dictionary of English Etymology*. Oxford: Clarendon Press.

Orёl, Vladimir

1998 *Albanian Etymological Dictionary*. Leiden: E. J. Brill.

2003 *A Handbook of Germanic Etymology*. Leiden: E. J. Brill.

Pereltsvaig, Asya, and Martin W. Lewis

2015 *The Indo-European Controversy*. Cambridge: Cambridge University Press.

Pokorny, Julius

1959—1969 *Indogermanisches etymologisches Wörterbuch [Indo-European Etymological Dictionary]*. 2 vols. Bern: Francke Verlag.

Polomé, Edgar C.

1979 “Creolization Theory and Linguistic Prehistory”, in: Bela Brogyanyi (ed.), *Studies in Diachronic, Synchronic, and Typological Linguistics: Festschrift for Oswald Szemerényi on the Occasion of His 65th Birthday*. 2 vols. Amsterdam: John Benjamins, vol. II, pp. 679—690.

1990 “The Indo-Europeanization of Northern Europe: The Linguistic Evidence”, *Journal of Indo-European Studies* 18.3/4:331—338.

Preobrazhensky, A[leksandr] G[rigor'evič]

1951 *Etymological Dictionary of the Russian Language*. Reprinted 1964. New York, NY: Columbia University Press.

Puhvel, Jaan

1984— *Hittite Etymological Dictionary*. Berlin, New York, NY, and Amsterdam: Mouton de Gruyter.

Quiles, Carlos

2017 *Indo-European Demic Diffusion Model*. 2nd edition, revised and updated June 2017. Badajoz: Universidad de Extremadura.

Ringe, Donald

1998 “A Probabilistic Evaluation of Indo-Uralic”, in: Brian D. Joseph and Joseph C. Salmons (eds.), *Nostratic: Sifting the Evidence*. Amsterdam and Philadelphia, PA: John Benjamins, pp. 153—197.

Rix, Helmut

1998 *Lexikon der indogermanischen Verben [Lexicon of Indo-European Verbs]*. Wiesbaden: Dr. Ludwig Reichert Verlag.

[2001] [2nd edition.]

Salmons, Joe

1984 *The Extent of Language Contact Change: Germanic and Celtic*. Ph.D. dissertation, University of Texas, Austin.

1992 “Northwest Indo-European Vocabulary and Substrate Phonology”, in: Roger Pearson (ed.), *Perspectives on Indo-European Language, Culture and Religion: Festschrift for Edgar C. Polomé*. McLean, VA: Institute for the Study of Man, vol. 2, pp. 265—279.

1993 *The Glottalic Theory: Survey and Synthesis.* McLean, VA: Institute for the Study of Man.

2004 “How (Non-)Indo-European is the Germanic Lexicon? And What Does That Mean?”, in Irma Hyvärinen, Petri Kallio, Jarmo Korhonen, Leena Kolehmainen, and Jorma Koivulehto (eds.), *Etymologie, Entlehnungen, und Entwicklungen: Festschrift für Jorma Koivulehto zum 70 Geburtstag [Etymology, Borrowings, and Developments: Commemorative Volume for Jorma Koivlehtu on His 70th Birthday]*. Helsinki: Société Néophilologique, pp. 311—321.

Salmons, Joseph C., and Brian D. Joseph (eds.)

1998 *Nostratic: Sifting the Evidence*. Amsterdam and Philadelphia, PA: John Benjamins.

Schrijver, Peter

2011 “La langue hattique et sa pertinence possible pour les contacts linguistiques préhistoriques en Europe occidentale” [The Hattic Language and Its Possible Relevance for Prehistoric Linguistic Contacts in Western Europe], in: Coline Ruiz Darasse and Eugenio R. Luján (eds.), *Contacts linguistiques dans l’Occident méditerranéen antique [Linguistic Contacts in the Ancient Western Mediterranean]*. Madrid: Collection de la Casa de Velázquez (126), pp. 241—255.

Sergent, Bernard

1995 *Les Indo-Européens: histoire, langue, mythes [The Indo-Europeans: History, Language, Myths]*. Paris: Éditions Payot et Rivages.

Shields, Kenneth

1982 *Indo-European Noun Inflection*. University Park, PA: The Pennsylvania State University Press.

Siegel, Jeff

2008 *The Emergence of Pidgin and Creole Languages*. Oxford: Oxford University Press.

Smoczyński, Wojciech

2007 *Lietuvių Kalbos Etimologinis Žodynas / Słownik Etymologiczny Języka Litewskiego [Etymological Dictionary of the Lithuanian Language]*. 2 vols. Vilnius: University of Vilnius, Faculty of Philosophy.

Specht, Franz

1944 *Der Ursprung der indogermanischen Deklination [The Origin of Indo-European Declension]*. Göttingen: Vandenhoeck & Ruprecht.

Starostin, Sergej A.

2009 “Indo-European—North Caucasian Isoglosses” (translated by Ronald W. Thornton), *Mother Tongue* XIV:77—135. Originally published in Russian in 1988.

Sturtevant, Edgar H.

1952 “The Prehistory of Indo-European: A Summary”, *Language* 28.2:177—181.

Szemerényi, Oswald

1996 *Introduction to Indo-European Linguistics*. Translated from the 4th edition (1990) of *Einführung in die vergleichende Sprachwissenschaft [Introduction to Comparative Linguistics]* by David Morgan Jones, with additional notes and references. Oxford: Clarendon Press.

Thomason, Sarah G.

2001 *Language Contact: An Introduction*. Edinburgh: Edinburgh University Press.

Thomason, Sarah G., and Terrence Kaufman

1988 *Language Contact, Creolization, and Genetic Linguistics*. Berkeley and Los Angeles, CA: University of California Press.

Tischler, Johann

1977— *Hethitisches etymologisches Wörterbuch [Hittite Etymological Dictionary]*. Innsbruck: Innsbrucker Beiträge zur Sprachwissen-schaft.

Tuite, Kevin, and Wolfgang Schulze

1998 “A Case of Taboo-Motivated Lexical Replacement in the Indigenous Languages of the Caucasus”, *Anthropological Linguistics* 40.3:363—383.

Turner, Ralph L.
1966—1969 *A Comparative Dictionary of the Indo-Aryan Languages*. 2 vols. Impression of 1973. Indices (1969) compiled by Dorothy Rivers Turner. Oxford: Oxford University Press.

Uesson, Ants-Michael
1970 *On Linguistic Affinity: The Indo-Uralic Problem*. Malmö: Estonian Post.

Uhlenbeck, C[hristianus] C[ornelius]
1901 “Agens und Patiens im Kasussystem der indogermanischen Sprachen” [Agent and Patient in the Case System of the Indo-European Languages], *Indogermanische Forschungen* 12:170—171.
1937 The Indogermanic Mother Language and Mother Tribes Complex”, *American Anthropologist* 39:385—393.

Van Windekens, A[lbert] J[oris]
1976—1982 *Le tokharien confronté avec les autres langues indo-européennes [Tocharian Compared with the Other Indo-European Languages]*. 3 vols. Louvain: Centre International de Dialecto-logie Générale.

Vennemann, Theo (ed.)
1989 *The New Sound of Indo-European: Essays in Phonological Reconstruction*. Berlin and New York, NY: Mouton de Gruyter.

Villar, Francisco
1991 *Los indoeuropeos y los orígenes de Europa: Lenguaje e historia [The Indo-Europeans and the Origins of Europe: Language and History]*. Madrid: Gredos.
[1996] [2nd edition.]

Walde, Alois
1927—1932 *Vergleichendes Wörterbuch der indogermanischen Sprachen [Comparative Dictionary of the Indo-European Languages]*. Revised and edited by Julius Pokorny. 3 vols. Reprinted 1973. Berlin: Walter de Gruyter.

Walde, Alois, and Johann Baptist Hofmann
1965—1972 *Lateinisches etymologisches Wörterbuch [Latin Etymological Dictionary]*. 3 vols. 5th edition. Heidelberg: Carl Winter.

Watkins, Calvert (ed.)
1985 *The American Heritage Dictionary of Indo-European Roots*. Boston, MA: Houghton Mifflin Company.
[1992] [Revised edition. Included as an Appendix to the 3rd edition of the *American Heritage Dictionary of the English Language*. Boston, MA: Houghton Mifflin Co., pp. 2090—2134.]
[2000] [2nd edition.]
[2011] [3rd edition.]

Weeks, David Michael
1985 *Hittite Vocabulary. An Anatolian Appendix to Buck’s “Dictionary of Selected Synonyms in the Principal Indo-European Languages”*. Ph.D. dissertation, University of California, Los Angeles.

Winter, Werner (ed.)
1965 *Evidence for Laryngeals*. The Hague: Mouton.

Zimmer, Stefan
2002 (1999) “The Problem of Proto-Indo-European Glottogenesis”, *General Linguistics* 39.1/4:25—55.

I would like to thank John Colarusso for his comments and suggestions on this paper.

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

Indo-European-North Caucasian Isoglosses[1]

Sergei A. Starostin[2]

Translated by Ronald W. Thornton
Kamakura, Japan

To the North Caucasian languages we assign, following N. Trubetzkoy (Trubeckoj 1930), two language families: Northeast Caucasian (with the Lezgian, Tsezian, Andian, Lak and Nakh subgroups; separate subgroups are defined by the Dargi, Lak, Khinalug and Avar languages, of which Avar specifically is close to the Andi languages, forming together with them an Ando-Avar unity); and Northwest Caucasian (with the Abkhaz-Abaza and Adyghe subgroups, and the Ubykh language forming a separate subgroup). At the present time, following the works of I. M. Diakonoff and S. A. Starostin (D'jakonov and Starostin 1988) and V. V. Ivanov (Ivanov 1984), likewise with a high degree of certainty one may assign to Northeast Caucasian the Hurro-Urartian languages, and to the Northwest Caucasian languages the Hattic language (although the position of the latter is not yet fully clarified: quite possibly it may not fit directly into the makeup of the northwest Caucasian languages, but rather form with them a unity not unlike the Ando-Avar unity.

The progress achieved at present in the field of the comparative-historical phonetics of the North Caucasian languages[3] enables us to enlist North Caucasian data for various types of researches in the field of genetic and areal connections among the languages of the Caucasus (earlier this was difficult due to the extensive restructuring of the phonetic systems of the present-day North Caucasian languages, as a result of which the necessity for accurate North Caucasian reconstructions was especially sharply felt). In the present work, we attempt to analyze the interrelationship of the North Caucasian and Indo-European languages.

---

[1] This article was previously published in *Mother Tongue* XIV (2009), pp. 77-135. It was originally published as "Indoevropejsko-severnokavkazskie izoglossy" in *Drevnij Vostok: ètnokul'turnye sv'jazi* [*The Ancient East: ethnocultural connections*], pp. 112-163, Moscow: Nauka, 1988; reprinted (in Russian) in S.A. Starostin's *Trudy po jazykoznaniju* [*Investigations in Linguistics*], ed. by G.S. Starostin, pp. 312-358. 2007. Moscow: Jazyki slav'janskix kul'tur. We are grateful to George Starostin for supplying the electronic text to Dr. Thornton, as well as to Dr. Thornton for providing the English translation. [Ed.]

[2] The author expresses deep indebtedness to V.A. Dybo, Vyach. Vs. Ivanov and V.È. Orel for reviewing the manuscript and offering a number of valuable observations.

[3] The foundations of the comparative-historical phonetics of the North Caucasian languages were laid in the classic works of N. Trubetzkoy (Trubeckoj 1922; 1926; 1930; 1931). During the past twenty years many valuable researches in this field have appeared: it is sufficient to cite the works of T.E. Gudava (1965), V.K. Gigineishvili (Giginejšvili 1977), B.B. Talibov (1980), A.I. Abdokov (1976; 1983), D.S. Imnaishvili (Imnaijšvili 1977), A. Kuypers (1963; 1975), A.K. Shagirov (Šagirov 1977). The author of the present work together with S.L. Nikolaev produced a number of reconstructions of intermediate proto-language states (Proto-Lezgian, Proto-Tsezian, Proto-East Caucasian, Proto-West Caucasian) and put forward a new variant of North Caucasian reconstruction. At the present time an etymological dictionary of the North Caucasian languages, incorporating some 800 common North Caucasian roots (and as well about 2000 separate East Caucasian and West Caucasian lexical reconstructions) is being prepared for publication. [Ed. note: this book was later published a Nikola(y) & Starostin 1994.]

The absence of a genetic relationship between the North Caucasian and Indo-European languages is obvious: in the basic lexicons of these languages no correspondences of whatever sort exist, and the phonological and morphological systems differ fundamentally as well. Consequently, if we encounter resemblances of vocabulary between the North Caucasian and Indo-European languages (whether in their present stage of development or in their reconstructed states) the discussion clearly must be about borrowings.

Chronologically the most recent stratum of "Indo-Europeanisms" in the North Caucasian languages consists of numerous borrowings from contemporary Russian. The stratum preceding it consists of Iranianisms (borrowed from middle Persian and modern Persian, and also from Ossetian), these having penetrated the North Caucasian languages starting in the earliest centuries of the Christian era. Also to be noted is the large number of Armenianisms in the Udi language (Lezgian subgroup), several of which spilled over into the neighboring Lezgian languages (cf. Vinogradova and Klimov 1979). All of these borrowings, as a rule, are easily identified, and we will not be dwelling on them (although they without doubt constitute a needed field of research).

Of far greater interest are the instances of "Indo-Iranianisms" in the North Caucasian languages. Borrowings from some ancient Indo-Iranian language (languages?) are evident in the East Caucasian languages — although in a comparatively small number — of which the following examples testify:

1) PEC **u̯aran-*/**u̯aral-* 'camel' (Av., Lak *warani*, Darg. *walri*, Lezg. *lawar*): OInd. *varaṇa-* 'camel' (see Klimov 1971: 228).

2) PEC **vělθi*[4] 'thick felt, felt cloak' (Arch. *warti*, Tab. *verč*, Lezg. *lit*, Darg., Ak. *warhi*, Chir. *warse*, Lak *warsi*, Av. *burtina*, Chech. *werta*, Ing. *ferta* etc.: Avest. *varəsa* 'hair' [single strand] (PIE **u̯olk̂o-*, cf. as well OInd. *valça-* 'twig, withe', OSl. *vlasъ* etc., see *WP*: I, 297) — see Klimov 1972, 354 (Kartvelian parallels are found there as well, for which the author presumes an East Caucasian source).

3) PEC **werše* 'bull-calf, male calf; male' (Av. *basi* 'calf, Akhv. *buša*, Tind. *boha* 'bull', Chech., Btsb. *borš* 'bull'; Chech. *börša* 'male', Arch. *boš-or* 'husband, man'; cf. as well Ur. *wâšə* 'people, men'): OInd. *vr̥ṣa-* 'ox', *vr̥ṣan-*, *vr̥ṣṇí-* 'male', Avest. *varəšna-* 'male' (PIE **u̯ers-*, cf. Lat. *verrēs* 'wild boar', Lith. *ver̃šis* 'calf', Latv. *versis* 'ox' [*WP*: I, 269]). The Indo-European root usually is considered a verbal (cf. OInd. *varṣati* 'be rainy', Gk. οὐρέω < **u̯ors-ei̯ō* 'to wet'), but cf. the Nostratic etymology [Dolgopolsky 1974, 171]; in any case the direction of borrowing (from Indo-European to East Caucasian) raises no doubt here.

4) PEC **wVƚVrV* 'young one (up to 1 year)' (Tsakh. *vudra* 'kid up to one year'), Tzez. *beduro* 'bear cub', Btsb. *bader*, Chech. *bēr* 'child', and others): OInd.**vatara-* in *sa-*

---

4. The phoneme **θ* is reconstructed only for PEC and in a very small number of roots (apparently not ancient).

vātara- 'having that very calf' (PIE **u̯etero-*, cf. also Germ. **wiÞru-* 'year-old lamb; ram').[5] The Indo-European formation derives from PIE **u̯et-* 'year; old' (for the Nostratic etymology see *MSSNJa*: 337).

5) PEC **bārzV* 'mountain, hill' (Georgian *bɨzu*, Bezht. *bizo* 'mountain', Chech. *barz*, Ing. *boarz* 'hillock, knoll, mound', Lezg. *barza* 'high-mountain meadow'), OInd. *br̥hant-* 'high', Avest. *bərəzant-*, *bərəz-* 'high, mountain', Pers. *burz* 'mountain' (PIE **bherĝh-* 'high, to rise, to tower', from whence also Arm *barjr* 'high'; cf. Irish *bri* 'hill', OHG *berg* 'mountain', Slav. **bergъ* 'bank [of a stream]', Hitt. *parku-* 'high' and so on). For a reliable Nostratic etymology of the PIE root see Illich-Svitych 1971, 177. Besides the above-enumerated East Caucasian forms, Lak *barzunt̄iw* 'heights, mountains' corresponds exactly, apparently, to the Indo-Iranian participle form in *-nt* (see above).

6) PEC **mälдwV* 6 'a kind of drink' (Lez. *med*, Tab. *med*, Dyub. *malj* 'syrup', God. *medi*, Bagv. *mer* 'beer, bouza'; compare also Lak (Bartx. dialect) *mald* 'sperm'): OInd. *madhu-* 'honey', Avest. *maδu* 'wine from berries' (PIE **medhu-* 'honey'; on the etymology of this root see below, 5.14).

With time, undoubtedly, it will become possible to enlarge this list somewhat.

That there would be an absence of old Iranianisms in the West Caucasian languages was presupposed by N. Trubetzkoy (Trubeckoj 1921). Most of his etymologies were submitted to a critique, conducted quite fairly, by G. Dumézil (Dumézil 1963).

In his turn, however, Dumézil in that work proposed Indo-European etymologies for a number of West Caucasian bases, but it is difficult, nevertheless, to agree with the majority of them; several of them will be examined below. On the whole we must maintain that so far any hopeful Indo-Iranian etymologies for whatever West Caucasian roots are lacking.

However, if we depart from the list of more or less late "Indo-Europeanisms" in the North Caucasian languages enumerated above, there still remains a very large group of lexical coincidences between PEC and PIE, the majority of which, as far as we know, have not figured in the specialized literature. To begin with we introduce a list of these instances, and then we attempt to offer corresponding linguistic commentaries.

1. NAMES OF ANIMALS

1.1. **PIE **(H)aiĝ-* 'she-goat'** (Gk. αἴξ, Arm. *aic*, Alb. *dhi* < **aiĝiiā* 'she-goat', Avest. *īzaena-* 'leathern' [see *WP*, v. 1, p. 8]); a variant of that root is, in all probability, PIE **(H)aĝ(o)* 'she-goat, he-goat' (Old Ind. *aja-* 'he-goat', *ajā* 'she-goat', cf. Pers. *azak* 'she-goat', Lith. *ožỹs*, Lett. *âzis* 'he-goat', Old Prus. *wosee* 'she-goat'; Alb. *edh* 'she-goat', Old Sl. *azno* (**azъno*) 'she-goat' [cf. *WP*, v. 1, p. 38]:[7] **PNC **Hējʒ́u* 'she-goat, he-goat'** (Darg. Ak.

---

5. Eng. *wether*, also in bell-*wether* [Ed.].

6. Note: the symbol /I/ in these words is not the high front vowel, as might be expected. It is the *paločka*, a convention of Russian Caucasology that indicates a pharyngealized vowel or consonant. Thus /äI/ represents the vowel /ä/ with a pharyngeal quality, /aI/ is pharyngeal /a/, etc. Also transcribed as /ä̹/, /a̹/, etc. [Ed.]

7. The PIE variants **(H)aiĝ-* and **(H)aĝo-*, the correlation of which within Indo-European is inexplicable, could in principle be due to their having arisen simultaneously as a borrowing from Proto-East-Caucasian (or, possibly, as a borrowing from several dialects which had differentiated among themselves). Concerning the etymological source of the Albanian names for 'she-goat' and 'goat-kid' see [Orël 1984].

ʕeža, Chir. *ʕač̄a* 'she-goat'; PN **ʔāwstV* 'she-goat up to 1 year of age' > Chec., Ing. *oasta*; PAK **ač̄á* 'he-goat' > Adyg. *āča*, Kab *āža*). For a comparison of the Adygh and Indo-European material (but without involving the East Caucasian data) see Dumézil 1963: 13.

1.2. **PIE **eḱu̯o* 'horse'** (OInd. *açva-*, Gk. ἵππος, Lat. *equus*, OIr. *ech*, Old Eng. *eoh*, Lith. *ašvà*, OLith. *ešva* 'mare', Hier. Hitt. *aśuwa-* and so on; [see *WP*: I, 113]: **PEC **ħɨnčwV* 'horse'** (PL **ħɨnšʷ* > Arch. *nolš* 'horse', Lezg. *šiw* 'steed', Khin. *pši*, Darg. *urči*, Lak *čʷu*, Av. *ču*; Proto-Andi **ʔičʷa* > Akhv. and Tind. *ičʷa*, And. *iča* and so on; Proto-Western Caucasian **č́ʷə* > Abkh. *a-čə́*, Ub. *č́ə*, Ad. *š́ə*, and Kab. *šə* 'horse'; cf. also Hurr. *eššə* 'horse'.

Besides the Indo-European form one can note as well Sum. *anšu*, *anše* 'donkey, ass' = Proto-Lezg. **ħɨnšʷ* (that the Sumerian word is a borrowing is indicated by its irregular vocalism – a feature impossible in the native Sumerian lexicon). "Mediterranean" names for the ass (Gk. ὄνος < **ohono-s* < **osono-s*, Lat. *asinus* 'ass'), all of which Arm. *eš* 'ass' hints at (cf. *WP*, ibid.), have, no doubt, a Hurro-Urartian source of the type **eššə-nə* (with a typical postpositive formation in *-n-*[8]).

1.3. **PIE **kaĝo- (~-o-)* 'goat, she-goat'** (OSl *koza*, *kozьlъ*; OEng. *hēcen*, cf. OLGerm. *hōken* 'goat [dim.]' (with an unclear vowel lengthening), Goth. *hakuls*, OLGerm. *hachul* 'coat [article of clothing]' (< 'leathern'), Alb. *kedh*, *kec* 'kid'; [see Toller 1921, 526; Feist, 238-239]: **PEC **q̇oIcV* 'goat, she-goat, kid'**[9] (Lezg. *вeç* 'kid', Darg., Lak *q̇aIca* 'he-goat'; Georg. *q̇asa* 'hornless animal' also, apparently, belongs here).

1.4. **PIE **kol(i)-* 'puppy, cub, whelp; young one'** (Gk. σκύλαξ, Hes.[10] κύλλα 'puppy, cub, whelp; young one'; Lith. *kãlė*, *kalẽ* 'bitch', Alb. *kël'üš* 'young one; puppy, cub, whelp', cf. Irish *cuilēn* (**koli-gno-*'young one', *WP*: I, 445; Frisk II, 741; Fraenkel, p.

---

[8] The morpheme *-nə* in Hurro-Urartian plays the role of a definite article and therefore very frequently determines the shape of nouns. Historically it goes back, apparently, to a Proto-East Caucasian (and, possibly, to a Proto-North Caucasian) indicator of an oblique noun base **-nV*, well represented in contemporary East-Caucasian languages (in West Caucasian only relic formations with this formant survive). It is very likely that in PEC and PNC the morpheme **-nV*, besides indicating an oblique base, also played the role as well of an indicator of definiteness. Attention is called to the fact that among the Indo-European lexemes examined in the present work rather a large number of them have a suffixal prevalence of *-*n*-, of which fact examples 2.10 (**pērs-nā*), 2.14 (**stom-en-*), 2.15 (**s/p/elĝh-en-*) and 3.14 (**bharsĭno-)* testify: as for the identity of the latter, namely PEC **bVrč̣-inV*; 3.23 (**(H)enkʷ-no-* > Slav.**ęčьnъ*, Gk. ŏμπνη), 4.10 (**gʷerə-n-*), 5.6 (**u̯es-no-*). Compare as well the heteroclitic bases 2.2 **li̯ekʷ-r̥/*li̯ekʷ-no-* and 5.11 **k̂ekʷ-r̥-/*k̂ekʷ-no-*, upon which the nominative shape could have been developed still later, following the Indo-European model of that time.

[9] Many of the examples introduced in the present article are based only on East Caucasian data (separate West Caucasian -Indo-European isoglosses exist as well, but in a very small number: see examples 4.1, 4.15, 5.13). This, however, hardly speaks of any specific ties between PEC and PIE. It is more likely that we are dealing here with roots the reflexes of which in the West Caucasian languages have been lost. The fact is that the specific character of the contemporary West Caucasian languages (just as with the reconstructed PWC) has resulted from a sharp contraction of the number of roots in general on account of an extraordinary growth development of root composition, such that many of the original roots are now lost, having been replaced by periphrastic formations of various types. This, in part, explains the quite small common root stock of the West Caucasian languages (splendidly serving, however, a large part of the lexemes in the contemporary West Caucasian languages) and the comparatively small number of reconstructed PNC roots (around 800 out of more than 2000 PEC roots).

[10] *Hesychius of Alexandria [translator's note].

208): **PEC **q̇VlV* 'young one'** (Lak *q̇uli* 'young one'; PTs. **q̇əra* 'child; infant' > Khvar. *q̇ale*, Inkh. *q̇ala*, Georg. *q̇əra*, Bezht. *q̇owa*, Tl. *q̇ora*).

The comparison is admissible if in PIE the original meaning is in actuality 'puppy, cub, whelp; young one' (the morphological structure of the formations presented do in principle permit one other explanation).

1.5. **PIE **dik-/dig-* 'she-goat'** (OHGerm. *ziga* [base in *-n-*] 'she-goat', OEng. *ticcen*, OGerm. *zickīn* < **tiknīn-*) *'she-goat* [dim.]', Arm. *tik*, Gk. Hes. δίζα 'she-goat', *WP* I, 814; Frisk: I, 390-391): **PEC **ƚVq̇V* 'he-goat, kid'** (PTS **ƚɨq̇ʷə* 'goat kid up to 1 year' > Inkh. *ƚɨq̇o*, Bezht. *ṭöq̇ä*, Hunz. *ṭoq̇-či*, Av *deʕen* (< **deq̇en*) 'he-goat'; possibly belonging here as well is Hurrian *taɣə* 'man [male person]': D'yakonov and Starostin 1988.

1.6. **PIE **peḱu-* 'livestock'** (OInd *paçu*, Avest. *pasu-*, Lat *pecu*, OHGer. *fihu*, OEng. *feoh*, Lith. *pekus*, see *WP*: II, 16): **PNC **p̄äHäƛ̣wV* 'livestock'** (basically small horned animals [sheep and goats]: Arch. *balƛ̣* 'ram', PTs. **biƛ̣* > Tsez. *beƛ̣* 'sheep [collective]', Hunz., Bezht. *biƛ̣*. 'sheep [sing.]', Av. *buruṭ* < **buṭ-ur* < **buƛ̣-ur* 'kid', And. *beƛ̣iri* 'deer' [sing.], PN **bɦoḳ* 'he-goat' > Chec., Ing. Chech. *bož*, Btsb. *bʕoḳ*; PAK **bŁa* 'flock' in the compound **χʷə-bŁa* 'flock of sheep' [where *χʷə* is 'sheep'], Ad. *χʷə-bɣa*, Kab. *χʷə-bža*).

Despite *WP*: II, 16 PIE **peḱu-* is hardly related to **peḱ-* 'comb, card'. Also doubtful as well is a Nostratic origin of the Indo-European root (see *MCCNJa*. 365) – for a root with a meaning such as this it is better to suppose a migrational character.

1.7. **PIE **porḱo-* 'pig, swine,** suckling-pig (domestic)' (Lat. *porcus*, MIran. *orc*, OLGerm. *far(a)h*, Lith. *par̃šas* 'hog', Slav. **porsę* 'suckling-pig' [*WP*: II, 78]): **PNC **wālrƛ̣ƛ̣wə* 'pig, swine, sow'** (PL **walƛ̣ʷ* > Arch. *bolƛ̣*, Lezg. *wak*, Ag. *wak̄*, Ud. *bolq̱* and so on 'pig, swine'; Lak *burḳ*; PTs **bulƛV* > Tsez. *beƛo*, Gin. *boƛi*, Hunz. *buƛu* and so on; Btsb. *buruḳ* 'suckling-pig'; PAK **Ĺawə* (by metathesis < **waĹə*) > Ad. *Ĺawə*, Kab. *Ĺaw* 'pig, swine, sow').

An East Caucasian source is supposed by G. A. Klimov (Klimov 1971, 224-225) for Geor. *bur(w)aḳ-* 'adolescent suckling-pig'; that area is also under consideration regarding the question of the correlation between the Nakh-Dagestanian forms and PIE **porḱo-*.

1.8. **PIE **ster-* 'barren, sterile'** (of animals), infertile (OInd. *starī́-* 'infertile cow; heifer'; Arm. *sterj*, *sterd* 'infertile (of animals)'; Gk. στεῖρα 'the infertile one (f.)'; Alb. *štjer̄ë* 'young cow; lamb'; Lat. *sterilis* 'infertile'; Goth. *staírō* 'the infertile one, the barren one (f.)', MHGerm. *sterke* 'cow that has not calved, heifer', see *WP*: II, 640): **PEC **ʔIīć̣wɨlV* 'heifer'** (Av. *ʕač̣ar*, PA **č̣ora* > And. *č̣ora*, Tind, Kar. and others *č̣ara* 'heifer, 'one that is weak, not a sure bet'; PN **ʕāsse* 'calf (up to one year)' > Chech. *ēsa*, Ing *ʕasa*; PL (with metathesis) **luč̣a* heifer > Tab. *lič̣*, Ag. *luč̣*, Tsah. *vuč̣e* and others; Darg., Chir. *luč̣*, probably < Ag.).

The origin of PIE **ster-* 'infertile one (f.), heifer' from **ster-* 'hard; rigid, stiff, stern' (*WP*: II, 640) is an obvious example of folk etymology.

1.9. **PIE **g✱ēb(h)- / *g✱ob(h)-*** (with irregular ablaut relations) **'toad, frog'** (Slav. **žaba*, OPrus. *gabawo* 'toad', Lat. [< Osc.-Umbr.] *būfō* 'frog', Mid. High German *quappe* 'burbot, eel-pout' etc. [*WP*: I, 674; Vasmer: I, 31, Walde, 74]): **PEC **GG(w)V̄Iṗ V* 'frog, a kind of worm [fem.]'** (PL **q̱oIp̄* 'frog' > Lezg. *q̱ib*, Tab. *ʁIub*, Rut. *ʁIib*, Kryz. *q̱ub* and others; PN **qōṗV* 'trichina, trichinosis' > Chech. *qöba*, Ing. *qop*; Av. *q̇ob* 'malaria').

Completely unclear is the relation to the Indo-European root of the Kartvelian forms (Laz. *mǯvabu* 'toad', Megr. *žvabu* 'frog' [Čikobava 1938, 118; Klimov 1981, 169]):

direct borrowing from Slavic languages is improbable, whereas if it is a case of it being of greater antiquity the initial consonant in Kartvelian is incomprehensible.

1.10. **PIE **pisk/peisk-* 'fish'** (Lat. *piscis*, Goth. *fisks*, OIr. *iasc*, ? Slav. **pisk*-orjь 'gudgeon, eel' [*WP*: II, 11]; otherwise on the Slavic form see Vasmer: III, 267): **PNC **p̄Vš́wV* 'fish'** (PTs. **bɨš̄^{w}V* > Tsez *besuro, bes^{w}iro*, Hin. *besuro*, Hunz. *bɨsə*, Bezht. *bisa*; PWC **p̄əšV* 'fish' > Ub. *psa*; PAK **p̄ča* > Ad. *pca*, Kab. *bʒa* large fish; PAT **pəśə* > Abkh., Bz. *a-psə́-ʒ*, Abaz. *ps-lač̄^{w}a* 'fish').

Whenever a given comparison of -k- in its Indo-European form is made it follows that the suffixal form (the old diminutive suffix?) should be taken into account. For a comparison of the West Caucasian material (not including the Tsez forms) with Indo-European see Dumézil 1963, 18.

1.11. **PIE **k̂ek̂-/*kek̂-* 'weasel, polecat'** (OInd. *kaça-, kaçīkā́* 'weasel', Lith. *šẽškas*, Latv. *sesks* 'polecat' (*WP*: I, 381; Fraenkel, 976-977); an irregular variant **ĝeĝh-* is reflected in OInd. *jáhakā* 'polecat' (or 'hedgehog' [Mayrhofer, 426; *WP*: I, 570]): **PNC **ç̣V̆rʒV* 'marten, weasel, squirrel'** (PL **ç̣orç̣-ol* 'marten' > Tab. *čṛçul, ç̣urç̣ul*, Ag. *ç̣urç̣ul*, Lezg. *cuç̣ul*; Av. dial. *zazi-ˤunḳ* 'squirrel' (*ˤunḳ* 'mouse'), PN **ç̣eca-* > Chech. *ç̣eca-joqqurg* 'weasel', Ing. *cic-χolg* 'rat'; PWC **c̄VʒV* 'marten, weasel (with various assimilations in the reflexes) > Ub. *čaca* 'beaver', PAK **c̄əʒá* 'marten' > Ad. *cəza*, Kab. *ʒəʒa*; PAT **ćəʒV* > Abaz. *ʒəʒəc* 'weasel', Abkh. **a-pš́-ćʒa*, Bukv. 'red marten' > *a-pšʒa* 'weasel').

Borrowing from a Turkic source for the Adyghe form is ruled out (despite A. K. Shagirov [Šagirov 1977: I, 168]).

2. NAMES OF BODY PARTS

2.1. **PIE **(H)ang-* 'hip, ankle'** (OInd. *aṅga-*'member, part of the body'; OHGerm. *ancha, enka* 'hip, 'tubular bone', OIc. *ekkja* 'ankle, heel' (Germ. **ankjōn-*), cf. also Germ. **ankulan-* 'ankle' > OHGerm. *enchila*, OIc. *ǫkkla* and so on [*WP*: I, 61]: **PEC **hIānq̱q̱V* 'hip, part of the leg'** [PL **ʔaq̱* > Arch. *aq* 'leg; rear leg of an animal'; Tab. Dyub. *aq̱a* 'hip [of a man, animal'], rear leg [of an animal]', Ag. *aʁ* 'hip; calf [of the leg]'; PA **ʔanq̱u* > And. *aq̱u* 'hip', Tind. *anqu* 'knee bone'; Chech. *ħōq-am* 'calyx [anatom.]').

WP: I, 61 relates to this (with a question-mark) PIE **ang-(lo-)* 'corner' (Arm. *ankiun*, Lat. *angulus*, Slav. *ǫglъ*) and considers the root **ang-* a variant of PIE **ank-* 'to bend', which is doubtful (especially in view of the Caucasian parallels).

2.2. **PIE **(l)i̯ĕk✱-* 'liver'** (OInd. *yákr̥t*, Gk. ἧπαϱ, Lat. *iecur*; Lith. *jẽknos, jãknos*, Latv. *akne*; the Arm. form *leard* and Germ. form **lifar-* may point to the **l-*, and cf. as well OPrus. *lagno*, although this may just be a slip of the pen in place of *jagno* (Toporov 1980, 11; *WP*: I, 105; Benveniste 1935); **PEC **lăHăƛ̣wV* 'liver'** (PL **läƛ̣* > Tab. *liḳ*, Lezg. *leq̇*, Bud. *leq̇* and others; PA **riƛ̣a-jiƛ̱* > Akhv. *riƛ̣ajƛ̱i*, Tind. *relaƛ̱*, And. *reƛ̣iƛ̱i* and others; PN **dVHVχḳ* > Ing. *dijχk*, Chech. *doˤaχ*; with metathesis Av. *ṭul* (< **ƛ̣ul*); cf. as well as Ur. *zeldə* (< **ƛ̣-*) 'liver').

V. M. Illich-Svitych (*OSNJa*: II, 17) separates the Armenian and Germanic forms from the remaining Indo-European forms, deriving them as being supposedly from Nostratic **l/e/ṗA* 'spleen'; in view of the PEC form, however, deriving all the Indo-European forms from PIE **li̯ek^{w}-r̥-*, as proposed by Benveniste (Benveniste 1935: 182), appears more satisfactory.

2.3. **PIE **Hu̯ələnā* 'hair, wool, fur'** (OInd. *ū́rṇā*; Gk. λῆνος; Lat. *lāna*; Goth. *wulla*, OHGerm. *wolla* and so on; Lith. *vìlna*, Latv. *vil̃na*; OSl *vlъna*; Welsh *gwlan*, MIr. *olann* and others; Hitt. *ḫulana-*; see *WP*: I, 296): **PEC **ƛ̱wāhnɨ* 'hair, wool'** (PN **kān* spring hair, wool, fur' > Ing. *ka*, Chech. *kan*; Av. *ƛ̱uh* in *ƛ̱uh baqize* 'flay, skin'; Kar. *λũji*, Tok. *λuni* 'hair [strand]'; PTs. **λ̱ũ* 'hair, wool, fur' > Gin. *λu-s*, Hunz. *λũ*, Bezht. *λu* and others; Khin. *ka* 'hair, wool, fur'; PL **λ̱aj* 'wool' (of sheep)' (Arch. *oλ*, Tab. *xa*, Khyur. *x̱aj*, Ag. *xej*, Burshch. *š:i*, Tsakh. *xa*, Ud. *xa*).

The segmental structure of the PIE and the PEC forms is identical (on the PIE **l* = PEC **ƛ̱* correspondence see below) with the exception of the position of the laryngeal (in PIE in the initial, in PEC in the medial)[11].

2.4. **PIE **kais-* 'hairs'** (OInd. *kesara-* 'hairs, mane', Lat. *caesariēs* hairs of the head'; [Mayrhofer: 268; Walde: 81]; cf. also, perhaps, Hitt. *kišri-* 'something which is hairy, wooly, furry; hair, wool, fur?' [*WP*: I, 329; Kronasser 1956: 64]; the words: OSl. *kosa*, *kosmъ*, Lith. *kasà* 'коса', OIc. *haddr* (**hazda-*) 'feminine hairs' may represent contamination of the root **kais-* and the root **kes-* 'to comb', from which the words usually are derived, see *WP*: I, 449: **PEC **kwVsV* 'braid, hairs'** (Tab. *kuš* 'braid'; Av. *kʷas* 'hair, wool, fur'; Tsez. *kos* 'cock's comb'; PWC **kʷəs(w)V/*sVkʷə* 'mane, crown' > Abkh. *á-kʷsə* 'crown', PAK **sákʷ* > Ad. *sakʷ*, Kab. *sokʷ* 'mane').

In connection with the Indo-European words with suffixal *-r-* a series of East Caucasian derivatives with the suffix **-lV* can be noted (on the correspondence PNC **l* = PIE **r* see below), cf. Darg. Sirg. *kusala* 'wing', Btsb. *karsā* (**kas-Vl-*) 'wattled rope of goat's hair' and others.

2.5. **PIE **kenk-* 'part of the leg'** (Lith *kenklẽ* 'hollow, depression under the knee'; Germ. **hanha-* 'heel'; knee tendon' [*WP*: I, 401; Fraenkel, 239]): **PNC **q̇ămq̇ə* 'a part of the foot'** (PL **q̇amq̇(a)* 'knee' > Tab. *q̇amq̇*, Ar. *q̇ʷaqʷ*, Rut. *q̇ʷaq̇*; Darg. Ak. *q̇uq̇a*, Kad. *q̇unq̇a* 'knee'; Tsez. *q̇aIq̇u* 'tubular bone'; PAT **q̇ʷaq̇ʷa* 'pelvic bones' > Abkh. *a-q̇ʷaq̇ʷa*, Abaz. *q̇ʷaq̇ʷa*).

2.6. PIE ****konə-mo-* 'tibial bone, shin'** (Gk. κνήμη 'tibial bone, shin'; OIr. *cnāim* 'bone, leg'; OHGerm. *hamma* (< **han-ma-*) 'hip; knee hollow, cavity', [*WP*: I, 460; Frisk, 883]): **PNC **ḳwVnV* 'bone of the leg'** (PA **ḳʷinij* > Lezg. *ḳunuḳ* 'ankle', Rut. *ḳuni*, Tsakh. *ḳunu* 'knucklebone', Kryz. *ḳʷani* 'hip'; PAK **ḳánə* > Ad., Kab. *c̣̆an* 'knucklebone').

2.7. **PIE **g✱et-* 'gut, intestine'** (Lat. *botulus* 'intestine'; Goth. *qiþus* 'stomach, belly, maw, womb', OEng. *cwiđ* and others [*WP*: I, 671; Walde: 70]): **PEC **qqwata* (~-*ĕ*-) 'intestine, stomach'** (Lak *qata* 'large intestine' (of small horned livestock)', Av. *q̱ʷatá* 'large intestine'; Kar. *q̱ʷata* 'stomach').

2.8. **PIE **ĝ(h)enu-*** (OInd. *hanu*; Lat. *gena* 'cheek' *dentes genuīnī* 'back teeth'; OIr. *gin*, *giun* 'mouth', Welsh *gen* **'cheek, chin'**; Goth. *kinnus* 'cheek', OHGerm. *kinni* 'chin' and others [*WP*: I, 587]): **PEC *a*č̣(č̣)anV* 'cheek'** (PTs [with reduplication] **č̣eč̣enV/č̣ič̣inV* 'chin' > Tsez. *č̣ič̣in*, Inkh. *č̣eč̣en*, Bezht. *c̣ic̣ina* and others; PN **č̣ăn-iḳ* [*-iḳ-*: a diminishing suffix] 'chin'> Ing. *č̣ang*, Chech. *č̣enig* Btsb. *č̣aniḳ*).

2.9. **PIE **tu̯ak-* 'skin'** (OInd. *tvac-* 'skin, hide'; Gk. σάκος 'shield of skin, leather' [*WP*: I, 747; Frisk: II, 672; Mayrhofer: 537]; related here as well, apparently, is Hitt.

---

[11] If in Hattic a metathesis of the laryngeal (*ḫulana-* < **hulᴀna-*) is presupposed, as is usually done in order to explain the Indo-European long sonant in a given root (**u̯ələnā-* < **u̯l̥̄nā* < **u̯l̥Hnā*), then the coincidence of the PIE and PEC forms will be still more exact.

tuekka- 'body'): PEC __*ççə̄kwV (~ -ʒʒ-) 'hide'__ (Av. _çokó_, PA _*çikwV_ > Akhv. _çoko_ 'skin', Tind. _c̄oka_ 'goat- hide', And. _çuku_ 'id.'; PN _*c̣ōka_ > Ing. _c̣oka_ 'hide (wolf's, dog's)', Chech. _c̣ōka_ 'hide').

2.10. __PIE *pērs-nā 'part of the leg'__ (OInd. _pārṣṇi-_, Avest. _pāšna-_ 'heel; Gk. πτέρνη 'heel; ham, gammon'; Lat. _perna_ 'back part of the hip; ham, gammon'; Goth. _fairzna_, OHGerm. _farsana_ 'heel'; see _WP_: II, 50; related here also is Hitt. _paršna-_ 'lower part of the leg' [Friedrich: II, 163]): __PEC *pwərccV 'paw; ham, gammon'__ (PL_*p̄ac_ 'paw' > Lezg. _p̄ac_, Tab. _bac_ and others; Av. _purc̄i_ 'ham, gammon (of animals)'; Cham. _becw_ knee; here as well probably belongs PTs _*bɨsV_ 'fist' > Tsez. _besi_, Hunz. _bɨza_ and others).

A Nostratic etymology for the PIE form (_MSSNJa_, 342) appears unhopeful (the author himself introduces it with a question mark), and in light of the Caucasian data it seems advisable to reject it.

2.11. __PIE *penk*e 'five'__ (OInd. _pañca_; Arm. _hing_; Gk. πέντε; Tokh. B _piś_; Alb. _pesë_; Lat. _quinque_; OIr. _cōic_; Goth. _fimf_; Lith. _penkì_; Slav._*pętь_ [_WP_: II, 55]): __PEC *x̱winḳwV 'fist'__ (Arch. _x̱iḳ_; Darg. _*x̱unḳ_ > Ak. _χunḳ_, Kharb. _x̱unḳ_ and others; PA _*hunḳĀ_[12] > God. _hunḳa_, Cham. _hũč̣a_, Bagv. _hunḳa_).

For PIE an alternative reconstruction _*k^{w}enk^{w}e_ is not excluded (if the Italo-Celtic form is assumed to be archaic and if an early dissimilation _k^{w}enk^{w}e_ > _*penk^{w}e_ in the other PIE dialects is assumed; on the analogic reconstruction of _*k^{w}erk^{w}o-_ 'oak' see below). The original meaning 'five fingers, fist' can be traced in its derivatives (cf. Germ. _*fing(w)raz_ 'finger' < _*penk^w-ró-s_, as well as PIE _*pn̥k^w-sti-_ 'fist' >OHGerm. _fūst_, OEng. _fȳst_, OSl. _pęstь_, Lith. _kùmstė_ [_WP_: II, 84; Fraenkel, 309-310]). Acceptance of the reconstruction _*k^{w}enk^{w}e_ and an initial meaning of 'five fingers, fist' renders the Indo-European-Caucasian parallel quite hopeful (the author thanks Vjach. Vs. Ivanov for having indicated the possibility of this comparison).

2.12. __PIE *bhāĝhu- 'a part of the arm'__ (OInd. _bāhú-_ 'arm, armpit; foreleg (of an animal)', Avest. _bāzu-_ 'hand, arm'; Gk. πῆχυς 'elbow, armpit'; OIc. _bōgr_ 'arm, shoulder'; Toch. A _pokeṃ_ 'arm' [_WP_: II, 130]: __PNC *p̄üggV 'side, part of the body from the armpit to the hip'__ [PL _*p̄eƛ̱_ 'side' > Rut., Kryz. _beg_ 'side', Rut. _beγ-da_ 'near'] < 'at the side'and others; Khin. _buγru-_ 'side'; Bezht. _beƛ̱ejo_ 'part of the body from the armpit to the hip'; PAA Proto-Abkhaz-Adygh _*bəγV_ 'waist, loins' > Abkh. _a-bʁa_, Abaz. _bʁa_, Ad., Kab. _bγə_).

2.13. __PIE *saim- 'thick liquid'__ (Gk. αἶμα 'blood', OHGerm. _seim_ 'treacle'; see Frisk: I, 39; the remaining Indo-European parallels, collected in _WP_: II, 465 under the root _*sē(i)-_ 'to drip, dribble, drop; humid', are entirely unreliable): __PNC *c̄wǟjmi 'bile, gall'__ (PL _*s̄äm_ > Arch. _s̄am_ 'bile; anger, ire'; Tab. _seb_ 'bile'; Lezg. _seb_ 'anger, ire'; Darg. _*θumi_ > Ak. _himi_, Kub. _tume_, Tsud. _simi_ 'bile; anger, ire'; Lak _s̄i_ 'bile; anger, ire'; PA _*s̄imi_ 'bile' > Akhv., Tind. _s̄imi_, And. _s̄im_ and others; Av. _c̄in_ 'bile; anger, ire'; PTs _*s̄ɨmə_ 'bile'> Tsez. _semi_, Georg. _simi_ and others, PN _*stim_ 'bile' > Chech. _stim_, Ing. _sim_, Btsb. _sem_. In PWC the reflex of this root _*ž́^{w}ə_ appears only in the formation _*ǵ^{w}ə-ž́^{w}ə_ 'anger, ire, spite' (where _*ǵ^{w}ə_ is 'heart'); cf. Abaz. _g^{w}əž^w_ secret, repressed spite', Ub. _ǵəž^w_ 'spite, vengeance', Ad. _(g^{w}əħa)-g^{w}əź_, Kab. _g^{w}əź(-ʁaź)_ 'secret, repressed spite'.

---

[12] The symbol _A_ in Proto-Andi reconstructions signifies an alternative possibility of the reconstruction of PA _*a_ or _*o_ (these vowels differ from each other only in the Andi language, whereas in the remaining languages they fall together into a common _a_; the vowel _o_ in the remaining Andi languages has a secondary origin, the result of a transfering of labialization from the neighboring consonant).

2.14. **PIE **stom-en-* 'mouth'** (Avest. *staman-* dog mouth, Afg. *stūnay* (< **stamna-ka-*) 'larynx'; Gk. στόμα 'mouth', Welsh *safn* 'mandible, jaw', OBret. *istomid* 'palate' and others [*WP*: II, 648; Dybo 1974, 100]): **PEC **ʒ́wĕmV* 'mouth, chin'** (Ud. *źomo(χ)* 'mouth, lips, mouth [of animals]; Lak *zuma* 'mouth, lips; edge, end'; PA **ž*^{w}*ina* / **ž*^{w}*ima* 'chin' > Kar. *žomo*, Btsb. *žuna*, Akhv. *žonoX̱i*, Tind. *žinaƛu*).

2.15. **PIE **s/p/elĝn(en)-* 'spleen'** (OInd. *plīhán-*, Avest. *spərəzan-*; Arm. *p`aicaɫn*; Gk. σπλήν; Lat. *lien*; OIr. *selg*; OSl. *slězena*; Lith. *blužnìs* [*WP*: II, 680]): **PNC **ʒwile/r/ʒwV* 'spleen'** (PL **c̄*^{w}*ilerc̄*^{w} > Tab. *žĕlerž*, Ag. *ž*^{w}*elez*, Lezg. *c̄ülez*, Rut. *ziliz* and others.; Darg. Chir. *zilaz* 'spleen', Kharb. *ur-clerc* kidney; PWC **ǯ*^{w}*anVz*^{w}*V (~ ź*^{w}*)* 'spleen; abomasum, rennet bag' > Ad. *ǯanaź* 'abomasum, rennet bag', PAT **ǯ*^{w}*anəza (~ ź)* 'spleen' > Abkh. *a-vanə́źa*, Abaz. *ʒanəza*; despite Shagirov 1977, 277, articulating or dividing the PAT form into **ǯ*^{w}*a* and *-nəza* is inadmissible).

As in the Indo-European, so also in the North Caucasian languages there are available several non-regular reconstructions of the root which do not, however, hinder a comparison of the PIE and PNC forms.

2.16. **PIE **kēr-* 'hair (single strand)'** (Latv. *cera, cẽre* 'hairs on the head, shaggy hairs; Lat. [with irregular transformations] *cirrus* 'curly hairs; OHGerm. *hār*, OEng. *hǣr* 'hair(s); see Vries: 210; *WP*: I, 413, 427, where the Germanic material belongs to another root): **PEC **kĭr(w)V* 'hair [single strand]'** (Darg. Chir. *kur* 'horse's mane; PTs. **kera* 'hair [single strand]'> Hunz. *kera*, Bezht. *keja*, Tl. *kera* and others; Av. *kar* 'hair [strand]'; PA **kArV* 'hair [single strand'] (Akhv. *kari*, Tind. *ḱara* and others; Chech. *kur* 'tuft, crest, forelock').

2.17. **PIE **orso-* 'back, hindquarter, buttocks'** (Gk. ὄϱϱος; OHGerm *ars*, OEng. *ears* and others; Ir. *err* 'tail'; Arm. *oṙ*; Hitt. *arra-š* [*WP*: I, 138; Friedrich: I, 28]): **PEC **ʔərəc̄wV* 'bottom, anus'** (Av. *roc̄*, PA **ris̄*^{w}*i* > Avkh. *ros̄i*, And. *rus̄u*, Tind. *ros̄i* and others 'anus'; PTs.**rɔs̄* 'foundation' (< 'bottom'); PL **ʔas̄-*'bottom' (Tab. *as-iq*, *as-ik̄* 'below', *as-ina* 'down, downward', Ag. *ajs* 'bottom', Lezg. *as-ḳan* 'lower [adj.]' and others; cf. as well Hurr. *tawš̄* (< **rawš̄-*) 'bottom, ground').

3. NAMES OF PLANTS

3.1. **PIE **(H)au̯iĝ-* 'oats'** (Lith. *avižà*, Latv. *àuzas*, OPrus. *wyse* 'oats'; Slav. **ovьsъ*; Lat. *avēna* 'fodder oats' [*WP*: I, 24]: **PEC **HVbVgV/*HVgVbV* 'a kind of cereal'** (Av. *ogób*, gen. *abg-il* 'rye'; PA **hAgib* 'rye' > Akhv. *hagib*, Tind. *hagib*; PWC **bag(')ə-na* 'oats' > Shaps. *baǵən(a)*, Ub. *baǵəna*).

The above West Caucasian forms, despite Shagirov (Šagirov 1977: I, 72), are to be distanced from PAK **bagəna* 'a dish made from flour and sour cream' < Osset. *bägäny* 'beer' [Abaev 1958, 245].

3.2. **PIE **(H)āg-* 'berry, fruit'** (Lith. *úoga* 'berry', Latv. *uôga* 'berry, 'sweet cherries'; Slav. **aga*, **ag-oda* 'berry'; Tokh. B *oko* 'fruit'; Germ. **ak-ran-* 'fruit'; Ir. *āirnē* (< **agrīni̯a*) 'sloe, blackthorn' and others [*WP*: I, 173; Vasmer: IV, 545]): **PEC **ʔĕqV* 'vineyard, fruit** (juicy, edible)' (Darg. Chir. *aq* 'fruits [juicy, edible] '; PTsKh **ʔoχ* 'vineyard' > Inkh. *oh*, Khwar. *oh*; PA **ʔoqi* > Akhv. *aqi*, Tind. *aχi* 'vineyard', And. *oχi* 'sweet cherries').

3.3. **PIE **k̂ēko-* 'fodder grass'** (OInd. *çāka-* 'edible grass, vegetables; Lith. *šiéas* 'freshly mowed grass, green feed, forage'; OIc. *hā* (**hēhōn-*) 'aftermath', Swed. dial. *hå, håv* [*WP*: I, 381; Vries: 199, Fraenkel: 970-971]): **PNC **ṣwēKV* 'chaff'** (Lezg. *ṣeḳʷ* 'chaff'; Darg. Ak., Tsud. *ṣuk* 'straw'; PWC **ć̣ʷVḳV* > PAK **ć̣aḳá* > Ad. *ṣ́āč̣a* 'weed', Kab. *ṣ́āč̣a* 'chaff'; ? Ub. *ć̣əḳ́ə* 'fruit stone').

3.4. **PIE **kermus-* (/ **k̂ermus-*) 'name of a plant'** (Slav. **čermъxa, *čermuxa* 'bird-cherry'; Latv. *cermauksis*, Lith. *šermùšklė* 'ashberry, rowan'. It is not clear how the common Indo-European name for wild onion or garlic relates to this Balto-Slavic formation: Gk.κρέμυον, κρόμυον 'a kind of onion', Mid-Ir. *crim* 'garlic', OEng. *hramsan* 'forest garlic', Slav. **čermъša* 'wild-growing onion', Lith. *kermùšė* 'wild garlic'; see Berneker 1908, 145; Vasmer: IV, 339; *WP*: I, 426): **PNC **kkăřmuśV / *kkăřmuźV / *kkumăřśV* 'quince or some similar fruit-bearing plant'** (PL **kurmäš/*kumärš* 'quince' > Tab. *kumiš*, Ag. Burshch. *kuršem*; a variant, **kurǯäm*, is reflected in Tab. Djub. *kuč̄im*, Ag. *kuržam*; Darg. **k̄imirθi* 'quince' > Ak. *gimirhi*, Kait. *č̄imisi* and others; Lak *k̄urmuz* 'mirabel [fruit]'; the Lak form, probably, served as the source of Av. *germez*, Arch. *gerbec*); PTsKh **kušu-Hi* 'peach' > Tsez. *kušuħi*, Gin. *kušoħi*; PN **kămVs/-z* 'vinyard > Chech. *kems*, Ing. *koms*, Btsb. *kaniz*; PWC > Abkh. /with metathesis / *mərgʷəź-*, Bz. *a-mərgʷə́ź-pħʷa* 'a sort of plum' (*pħʷa* 'plum'), *a-mərgʷə́ź-ṭama* 'a sort of peach' (*ṭama* 'peach')).

The word does not yield to further etymologization either in North Caucasian or in Indo-European (a comparison of the PIE form with Kartvelian **q̇ar-* 'to give off a stench' and Semitic-Hamitic **ḳr-* 'to smell' proposed by V. M. Illich-Svitych [*MSSNJa*: 354] must be rejected in that it is based on an arbitrary segmentation of the PIE base). We note the presence of that very root in Georg. *ḳomši* 'quince' (apparently from a North Caucasian source) from where, in its turn, Osset. *ḳomsi* 'quince' derives [Abaev 1958, 636]. It is quite probable that Gk. κέρασος (< **kerm̥so-*) 'cherry' has a North Caucasian (Hurrian?) source from which in the final analysis the European names for cherries and bird-cherries come (Frisk, 828; Vasmer: IV, 343, with references).

3.5. **PIE **gholg(h)-* (*~-a-*) 'branch, stick'** (Arm. *jałk* 'branch, twig'; Goth. *galga* 'stake, cross; OIc. *galgi* 'gallows, *gelgia* 'branch, stick' and other Germ. words ; Lith. *žalgà, žalgas* 'long, thin pole; [*WP*: I, 540]): **PEC **k̄alVk̄V* (*~k̄k̄*) 'branch, stick'** (Darg. **k̄alk̄a* > Ak. *galga*, Kajt. *k̄alk̄a* 'tree', Chir. *k̄alč̄e* 'branch'; Av. *gerégi* 'block (executioner's)' [from Av., borrowed by Arch. *geregi* 'stump of a cut tree without branches']; Bezht. *gaga-ṭo* 'rolling-pin').

As in PIE, so also in PEC as well there are non-reduplicated forms: for PIE cf. OInd. *halá-* 'plow', Arm. *joł* 'stake, long branch'; Lith. *žuolis* 'piece of wood' (**ghōl-*; for PEC cf. Tsez. *gilu* 'pole', Lak *č̄ala* 'bayonet', PN **găl(a)* > Chech. *gala* 'a kind of skittles (sport), chock (sport)', Btsb. *gal* 'birch (tree)' (**k̄ălV~*k̄k̄ălV*).

3.6. **PIE **ĝherd-* 'pear'** (Gk.ἄχερδος, ἀχράς 'pear (wild)'; Alb. *darδë* 'pear' [Frisk: I, 199]): **PNC **qῡIre* 'pear'** (PL **χeIra* > Arch. *χIer-t*, Rut. *χIɨr*, Ud. *ar* and others; Darg. Ak., Chir. and others *qaIr*; Lak *quIr-t* 'pear'; PN **qōr* 'pear, apple' > Chech., Ing. *qor* 'pear', Btsb. **qʷə(źə́)* > Ad. *q̱wəźə*, Kab. *qwəź*.

The Archi and Lak forms have the suffix *-t;* (in final position < **-d*), characteristic also for a number of names of leaf-bearing trees (cf. PEC **qĕrdi* 'linden', **č̣č̣welldi* 'willow' and others). Interesting in this connection is the presence of *-d-* in the Indo-European form. The comparison appears to be trustworthy despite the small distribution of the base in the Indo-European area.

3.7. **PIE _*glŏ̄gh-_ 'prickle, spike; thorn'** (Gk.γλῶχες 'awn, beard of a wheel', γλωχίς 'sharp (adj. pl.)'; Slav. _*glogъ_ 'hawthorn; blackthorn'; see *WP*: I, 662; Vasmer: I, 414): **PEC _*q̱q̱ĕlĕq̱q̱e (-i)_ 'bush (prickly'), thorn'** (Lak _x̱alax̱i_ 'thorn, needle'; Av. _q̱araq̱_ 'prickly bushes (collect.)'; Akhv. _q̱olaq̱e_ 'bush'; to this, probably, should be connected 'tree' (with a change of meaning of 'bush' > 'tree') PHB _*χõχe_ 'tree' > Hunz. _χõχe_, Bezht. _*χoχo_ and, apparently, Chech. _ʁarʁa_ 'a kind of poplar').

3.8. **PIE _*perk✱o-_ 'oak'** (OInd. _parkatī_ 'ficus religiosa', Punjab. _pargāi_ 'quercus ilex'; Afg. _pərgáy_ (< _*parku-ká-_) 'acorn'; Lat. _quercus_ 'oak'; OHGerm. _fereh-eih_ 'oak', _forha_ 'pine' and others; see Dybo 1974, 95; Mayrhofer, 221-222): **PEC _*χ̱wɨ̄rk(w)V_ 'a kind of tree (oak?)'** (Av. _hirk_ 'acorn'; PL _*χ̱^{w}ɨ(r)k_ > Arch. _χ̱^{w}ak_ 'forest', Rut. _χuk_ 'tree'.

If for PIE the original form is _*k^{w}erk^{w}o-_ (cf. Lat. _quercus_), then the comparison is acceptable (cf. above on PIE _*k^{w}enk^{w}e_ > _*penk^{w}e_ 'five' [2.11]).

3.9. **PIE _*pel(u̯)-_ 'name of a leaf-bearing tree'** (OHGerman. _fël(a)wa_ 'willow'; Osset. _farwe, färwe_ 'alder'; Lat. _pōpulus_ (< _*plōpol-os_) 'poplar'; ? Slav. _*topolь_ [by dissimilation < _*popolь_[13]]; Gk. πτελέα, πελέα 'elm'; therefore despite *WP*: II, 55, 85; Vasmer: IV, 79: **PNC _*pwīllV_ 'a kind of leaf-bearing tree'** (Darg._*pall_ > Tsud. _pall_ 'poplar', Ak. _pallpall-ag_ 'aspen'; PTsKh _*bille,_ Tsez. _belli_ 'poplar, ash', Gin. _bele_ 'poplar', Inkh. _bulle_ 'aspen'; Chech. _bō̆l-ak_ 'grove'; PAA _*ṕ^{w}V_ > Abkh. _a-t^{w}a_ 'lime-tree, linden' Ub. _pa-sə, t^{w}a-sə_ 'beech' [_-s_ 'tree']).

The reduplication in Darg. _pallpallag_ is similar to the reduplication in Lat. _pōpulus_ and Slav. _*topolь_ < _*popolь_. In view of the clear connection of the PIE and PNC forms the relationship to this of the Proto-Altaic forms _*pula_ 'poplar, asp' is not wholly clear (on the rapproachement of the Indo-European and Altaic roots and the reconstruction of Nostratic _*ṗulV_ 'poplar' see *MSSNYa*: 369).

3.10. **PIE _*pĭ̄tu-_ 'pine, fir, spruce'** (OInd. _pītu-dāru_ 'a kind of fir'; OGk. πίτυς 'pine, fir'; taking the original meaning to be 'resin' (see below) it is tempting to get from this OInd. _pitu-_, Avest. _pitu-_ 'juice, sap, drink (n.)': Lat. _pītuīta_ 'mucus, slime, humidity', although these words may well have a different origin [*WP*: II, 74-75]): **PEC _*pinç̣çwV_ 'resin, juice, sap'** (Darg. Ak. _penç̣_ 'resin'; Lak _piç̣_ 'melliferous dew perspiration; Av. _piç̱_ 'resin' [> Arch. _piç̣_]; PA _*pinči/*binç̣i_ 'resin' > And. _pirç̣i_, Akhv. _miç̣i_, Tind. _miči_, Kar. _biç̣i_; Chech. _mutta_ 'juice, sap').

As with the preceding root, in this case also a Nostratic parallel comes to light (on Nostr. _*peč̣V_, reflected in Ural. _*pe(n)ča_ 'pine' and Turk. _*bāš/*böš_ 'pine', see Terent'ev 1979, 160-162; as for Georg. _pič̣vi/bič̣vi_, it is tempting there also to see a parallel; most likely it has a North Caucasian source). It must be emphasized, however, that the Indo-European root (as V. A. Terent'ev notes), can not be a regular reflex of Nostr. _*peč̣V_.

3.11. **PIE _*peuk̂-_ 'fir, spruce'** (Gk. πέυκη; OPrus. _peuse_; Lith. _pušis_; OHGerm. _fiuhta_; MIr. _ochtach_ [*WP*: II, 15; Frisk: II, 523; Fraenkel, 679]): **PEC _*bilnḳḳwV_ 'fir, spruce, pine'** (Tab. _muḳ-ruḳ_ 'fir'; Lak Arak. [with reduplication] _milḳiḳij_ 'pine cone'; PN _*baḳa_ > Chech. _baga_ 'pine, Ing. _baga_ 'resinous root of the pine'; for the secondary development of

---

[13] The Slavic forms, as V. A. Dybo believes, appear to be a borrowing from Romance: cf. Ital. _tolpono_, Rheto-Rom. _talpon_ and others, reflexes of the form _*toplōn-_ — most likely derived from an unattested _*tŏpŭlus_. It is not clear how OInd. _píppala-_ 'Ficus religiosa' relates to that root.

*biInḳḳwV > _*miInḳḳwV_ > _*niIḳḳwV,_ cf. further Av. _naḳ_ 'pine', PTs _*neqi_ 'pine' > Hunz. _niqe-s,_ Bezht. _niqe,_ Tsez. _niqe-s_).

The Nostratic etymology of the Indo-European form (Terent'ev 1979, 162) appears doubtful first of all on phonetic grounds (Ural. _-k-_ can not correspond to PIE _-k-_), although possibly the similarity of the forms cited above to Ural. _*pükä_ 'cone' and Tung. _*bokoto_ 'cone' are not due to chance.

3.12. **PIE _*bherəĝo-/-ā-_' birch'** (OInd. _bhūrja-_ 'a kind of birch'; Osset. _bärz;_ Lat. _farnus, fraxinus_ 'ash'; OHGerm. _birihha,_ OEng. _beorc_ 'birch' and other Germ. examples; Lith. _béržas;_ Slav._*berza;_ Alb. _bredh_ 'fir, spruce'; see _WP_: II, 170): **PEC _*wēIrqwɨ_ 'birch'** (PL _*werχI_^{w} 'birch' > Lezg. _werχ,_ Rut. _wuχI, huχI,_ Tsakh. _woχI;_ PA _*birq_^{w}_V_ 'birch' > Akhv. _beqo-li ruša_ (_ruša_ 'tree'), Kar. _berχ-oƛ roša_ (_roša_ 'tree'), And. _beχu_ and others; cf. as well Av. _biháro, beháro_ 'poplar', Bezht. _biʁola_ 'asp', Lak _buq_ 'sloe').

Identifying PIE _*bherəĝ-_ 'birch' as from _*bhrēĝ-_ 'shine, sparkle' (_WP_: II, 170) is, most likely, folk etymology. In the Dagestanian languages there are forms that can appear to be relics of an ancient 'Indo-Iranianism', cf. Darg. Ak. _biriz_ 'poplar', Tab. _buruʒ_ 'post, pole, pillar'; and also possible is Chech. _bursa_ 'a kind of bushes' (PEC _*burVźV_ ~ _*p̄-_); in such case it is necessary to consider PEC _*weIrqwi_ and _*burVźV_ an etymological doublet.

3.13. **PIE _*bhā(u)ĝo-_'beech'** (Gk.φηγός 'oak'; Lat. _fāgus_ 'beech'; OHGerman. _buohha,_ OEng. _bōc_ 'beech' and other Germ. words; Kurd. _būz_ 'a kind of elm'; here also belongs, apparently, Slav. _*buzъ, *bъzъ_ 'elder' [_WP_: II, 128-130]): **PNC _*p̄ŏInqqwe_ 'oak, wood'** (PWC _*p̄ə̃q́_^{w}_a (~p̄-, -χ_^{w}_-)_ 'wood' > PAK _*pχa_ > Ad., Kab. _pχa_ 'wood'; Abkh. _mħa-_ (in the names of articles crafted of wood) — _a-mħá-ć_$_{m}$ 'spoon', _a-mħa-bə́sta,_ Bz. _a-mħá-p_ 'round long-handled wooden scoop for hominy', _a-c_$_{m}$_ə́-mħa,_ Bz. _a-mħa-c_$_{m}$ 'a round, long-handled wooden scoop for hominy' and others; Ub. _məχ́a-_ (in analogical constructions) — _məχ́ā́-ç_^{w} 'spoon', _məχ́ā-ç̌́a_ 'spade for stirring hominy, gruel'; PEC _*mŏIqqwe_ 'oak' > PL _*maqI_^{w}_a_ > Tab. _maqI_^{w}, Lezg. _meʁ_^{w}, Rut. _maχI_^{w}, Tsakh. _moqI_ 'fir, spruce', and others; Darg._*mik̄_^{w} > Ak. _mig,_ Kub. _mik_^{w} and others; PTsKh _*muqurḳa_ 'acorn' > Khwarsh., Inkh. _muqurḳa;_ Av. _mik̄_ 'oak tree, acorn'; PA _*mik̄_^{w}_V_ > Kar. _mik̄,_ Tind. _mix̱i_ and others).

3.14. **PIE _*bhar(e)s-_ 'barley'** (Lat. _far,_ gen. _farris_ 'grain in seed; meal, flour', _farīna_ 'meal, flour'; Goth. _bariz-eins_ 'barley (adj.)', O-Isl. _barr_ 'barley' and others; Slav. _*boršьno_): **PEC _*bVrç̌-inV_ 'a kind of cereal, barley'** (Av. _purç̌ina_ 'barley', PA _*biç̌in_ > Tind. _beç̌in,_ God. _beç̌in_ 'barley' and others; Chech. _bažan_ 'rye'; Lak _buIç̌in_ 'dry leaves (of leguminous plants)').

-inV in East Caucasian forms becomes suffixal (as is apparent, for example, from Av. pl. _purç̌a-bi_); characteristic are the identical PEC _*bVrç̌-inV_ = PIE _*bhars-ĭ̄no-._ From the Indo-European forms examined above it follows that Slav._*bъrъ_ 'millet' is to be separated out [_ÈSSJa_: III, 134-135; Vasmer: I, 193]); for this reason it is difficult to agree with V. M. Illich-Svitych [Illič-Svityč 1964, 4], following instead F. Hrozný [Hrozný 1913, 38], deriving the Indo-European root from Sem. _*br(r)_ 'seed, threshed seed'.

3.15. **PIE _*ned-_ 'cane, rush, reed,** rush (with a spongy stem)' (OInd. _nada-,_ Pers. _nai,_ dial. _nad_ 'cane [with spongy stem]'; Arm. _net_ 'arrow'; Lith. _néndrė_ 'rush [with spongy stem' [_WP_: II, 329; Fraenkel, 493; Mayrhofer, 127]: **PEC _*nə̄Hə̄ççwV_ 'cane, rush, reed,** rush (with spongy stem)' (PL _*naç,_ Lezg., Tab., Rut., Tsakh. _naç,_ Ag. _neç;_ Av. _nuç̱i/muç̱i_ 'cane, rush, reed, rush [with spongy stem]'; with metathesis PA _*ç̱im?V_ > And. _ç̱uma, ç̱_^{w}_a,_ Tind. _c̄ū,_ Cham. _ç̱imi_ and other Andi words).

3.16. **PIE **rughi̯o-* 'rye'** (OIc. *rugr,* OEng. *ryge* and other Germanic words; Lith. *rugỹs,* Latv. *rudzis*; Slav. **rъžъ* [*WP*: II, 374]): **PEC **rəƛ̱ƛ̱V* 'oats, wheat'** [PL with reduplication **ƛ̱arƛ̱ar* 'oats' > Lezg. *gerg,* Tab. *γarγar,* Ag. *jerg,* Rut. *γarγal,* Tsakh. *gargar;* Av. *roƛ̱* 'wheat']).

3.17. **PIE **lento-* 'tree name; wood'** (OIc. *lind,* OHGerman. *linta* 'linden'; Slav. **lǫtъ* 'young linden, its bark'; Lith. *lentà* 'board, plank'; Alb. *landë, lëndë* 'timber forest'; ? Gk. ἐλάτη 'fir'; see [*WP*: II, 437; Vries: 357]): **PEC **λwintV (~-ē-, -ī-)* 'firewood, wood'** (PTS **λwīdV* > Inkh. *lɨdo,* Khwarsh. *lida,* Gin. *rede,* Hunz. *hūdu* and others; PA **λundV* > Akhv. *λuda,* And. *λudi,* Cham. *λunni* and others).

Relating the PIE root **lento-* to 'flexible, lithe; slow' has an obvious folk-etymological character.

3.18. **PIE **lĭ̄no-* 'flax'** (Lat. *līnum*; Welsh *llin* and others in Celt., Alb. *liri,* Geg. *l'i̯ni;* Goth. *lein,* OHGerm. *līn* and others in Germ.; Gk. λίνον; Lith. *linaĩ,* OPrus. *linno;* Slav. **lьnъ* [*WP*: II, 440-441]): **PEC **λ̱winʔɨ* 'seed [in part, flaxen]'** (PL **λ̱ʷin* 'seed, grain') > Lezg. *fin,* Arch. *λ̱ʷin* 'seed', Rut. *xin* 'wheat', Kryz. *xin* 'flax'; Darg.**xʷe* 'seed' > Ak. *he,* Kub. *xʷe,* Urakh. *hʷi* and so on; Lak *hanna* /dial. *lanna*/ 'seeds'; Av. *xon* 'flax'; threshed flax seed; PA **xunʔi* 'seed' > And. *šen,* Tind. *hũʔu,* Kar. *xũji,* Cham. *huni* and others; PN **fŭ(n)* 'seed' > Btsb. *hu,* Chech. *hu* [gen. *hüna-n*], Ing. *fu* [gen. *funo*]).

In PEC the base hopefully etymologizes as deriving from the verb**ʔV-λ̱wVn-*'to sow' (cf. Cham. *hãhʷna,* Av. *xa-,* Darg. Chir. *-axʷn-* 'to sow' and others).

3.19. **PIE **sasi̯o-* 'a kind of cereal'** (OInd. *sasya-* 'food grains, bread grains, cereals', Avest. *hahya-* 'bread cereals'; Gall. *(s)asia-* 'rye', Welsh *haidd,* Bret. *heiz* 'barley'; the root without suffixal *-i-* is represented in OInd. *sasa-* 'nourishment, nutrition; edible plant'): **PEC **sūsV* 'a kind of cereal'** (Lak *sus* 'rye'; Chech. *sos* 'a special kind of rye'; with suffixal *–r,* cf. Darg. Kad. *sursur* 'rye'; Av. *susur* 'weed similar to oats, 'wild edible cereal', PA **susur* > Akhv. *šušul* 'oats', And. *susur* 'weed similar to oats', Tind. *susur* 'bran').

The root under discussion must be distinguished from PEC **šulV* (and from reduplicated **šulšulV*) 'rye, oats', which in several languages contaminates with reflexes of **sūsV.* The root **šulV,* apart from the Eastern Slavic languages (from where it no doubt penetrated into Ossetian both in a simple and in a reduplicated form, cf. Osset. *syl* 'rye', *sysyly* 'darnel, cockle') is widespread as well in Turkic, Finno-Ugrian and Kartvelian (Georg. *svili, svila* 'rye') — see Abaev 1979, 194-195, 211. It is, however, absent in the Indo-European languages.

3.20. **PIE **(H)aiĝ-* 'oak'** (OHGerm. *eih,* OEng. *āc* 'oak' and other Germanic words; Gk. αιγί-λωψ 'a kind of oak', αἴγειϱος 'Populus nigra'; ? Lat. *aesculus* (**aig-selo-*) 'mountain oak' [*WP*: I, 10; Walde, 12-13]; not wholly clear is the relationship here of Baltic **aižōl-/*anžōl-* 'oak' [*WP*: I, 10; Toporov 1975, 93, with references]): **PNC **ʔăǯwV* 'bush; tree'** (PA **ʔAžilV* >Akhv. *ažali* 'bush', Kar. *ežela* 'pine'; PTsKh **ʔažʷV* > Tsez. *ažʷi* 'tree, Gin. *aže* 'tree, bush', Inkh. *ažan* 'bush; PWC > Abkh. Bz. *a-ź* 'bush'). Cf. also Hurrian *az̲u-γə//az̲u-ḫ̮ḫ̮ə* 'fir, spruce'.[14]

---

[14] Hurrian is the source of Akk. *ašuḫ̮ḫ̮u, ašūḫ̮u* 'fir, spruce', from which comes Sum. *asoḫ̮* 'id.' (despite Liebermann 1977, 161, where the opposite direction of borrowing is presumed).

3.21. **PIE **(H)edhl-* 'elder; fir, spruce'** (Lat. *ebulus* 'elder'; Slav. **edlъ* 'fir, spruce'; Lith. *ẽglė*, Latv. *egle*, OPrus. *addle* 'fir, spruce', Lith. *ẽgli(u)s* 'elder', Latv. *pa-ẽgleg* 'juniper'; comparison with Gallic *odocos* 'elder' and connecting it to the hypothetical root**edh-* 'sharp' appears highly doubtful; see Walde, 189; Fraenkel, 118; ÈSSYa: VI, 15; Toporov 1975, 56-57): **PNC **ˀăjʒălħV* 'rowan; cornel'** (PA **ˀAzAl* 'rowan' > God., Cham. *azal* and others; PTsKh **ˀãsa* 'rowan' > Tsez. *asa*, Akhv. *ãsa*; PN **(ˀa)stVw* 'cornel (cornelian cherry tree)' > Chech. *stow*, Ing. *esti*; PWC **ʒ́a* 'cornel' > Kab. *za*, Abaz. *za-rə*, Abkh. Bz. *a-bgə́-ʒ́ar* and others. Comparison of the Adygh root with PEC **čāčā* 'prickle; thorn; burr' (Trubetzkoy 1930, 84) must, by all appearances, be rejected.

This comparison is acceptable if, in PIE, 'elder' is the original meaning. The PEC root, apparently, is somehow connected with Kartv. **ancıl̥-* 'elder' (although Abkh. *amçər-bǯ́ə* 'elder' was borrowed from Kartvelian, it was later than this – most likely through Megrelian as an intermediary; the presupposition of an initial kinship of the Abkhaz and Kartvelian forms [Klimov 1969, 290] is, by all appearances, unfounded).

3.22. **PIE **(a)masl-* 'apple'** (a form, presumably rconstructed on the base of Lat. *mālum*, Gk. μῆλον, Hitt. (with metathesis) *šamluw(a)-*; on the Iranian forms see below; see Ivanov 1978, 160-162 for a somewhat different reconstruction —**(s)m(ā)l-*): **PNC **ʕälmćə(-a)* 'apple; medlar'** (PL **ħämč* 'apple' > Arch. *alnš*, Tab. *vič*, Ag.. *ħač*, Lezg. *ič*, Kryz. *Ječ* and others; Khin. *mɨč*; Darg.**hinc(i)* > Urakh. *ʕinc* and others 'apple'; Lak *hiwč* 'id.'; PTS **ˀẽš:* 'apple' > Gin.*iši*, Inkh. *ẽš*, Gunz. *ẽš* and others; Av. *ʕeč* 'apple'; PA **ʔimči* 'apple' > Akhv. *eče*, And.*inči*, Cham. *miči* and others; *i*PN **ħamc* 'medlar' > Chech. *ħamc*, Ing. *ħamisk* < **ħamc-iḳ* [with dim. suffix]); PWC **bV-c̄^{w}V* 'medlar' > Abkh. *a-bac^{w}*, Ub. *brəc^{w}* [with an unclear *-r-*], Ad. Shaps. *nā-pca*); cf. as well Hurr. *ḫinz^{u}/orə* 'apple', whence Arm. *xnʒor* is borrowed).

The history of the Indo-European names for apple is exceptionally confused. An undoubted relationship to the Lat., Gk. and Hitt. forms examined above is seen in OIran. **(a)marna-* 'apple', reconstructed on the basis of a comparison of present-day Iranian forms (Steblin-Kamenskij 1982, 103, with references); it must be taken into account that the reconstruction **(a)mahr-na* < **(a)masl-* is also possible. The Proto-Iranian form **amahl-* (prior to the transition **l* > *r*) could serve as the source, firstly, of polysyllabic Indo-European forms (**amlo-/*ablo-* > OInd. *amra-ḥ* 'mango tree', *amra-m* 'fruit of the mango tree', Slav. **ablo* 'apple', Lith. *obuolỹs*, OHGerm. *apful*, Ir. *aball* and others; on the possibility of the derivation **-bl-* < **ml-* in the present case see Ivanov 1978, 161), and, secondly, of the Turkic forms (Turk. **alma, *ālima*); the Finno-Ugric forms — Finnish *omena*, Mordovian *umar* — apparently were borrowed from Iranian in a later era.

The reconstructed Indo-European proto-form **amas-l-* (in Hitt. metathesis needs to be presumed: **(a)mas-l-* > **sam-l-*) directly correlates to PNC **ʕälmćə*, with suffixal broadening — **ʕälmćə-lV* (cf. the Hurr. form *ḫinz^{u}/orə* < **ʕälmćə-lV*). Pointing to a similar suffixal formation as well is the Kartv. form **wašl̥-* 'apple', in all likelihood having a North Caucasian source (concerning initial *w-* cf. words of the type Tab. *vič* Lak *hiwč*, where forms such as these are the result of the regular development of **ʕälmćə* > **ʕälwćə* > *ʕwälćə*). We note that also, apparently, having an East Caucasian source as well is Sum. *ḫaš-ḫur* 'apple tree, apple'. Recently Vyach. Vs. Ivanov has brought as well into the comparison with the root under discussion Hatt. *ša-wat* 'apple tree', *ḫa-wit* 'to be similar to an apple' [Ivanov 1983, 134], but the possibility of a direct correlation to PWC **bVc̄^{w}V* (see above) and to Hatt. *wat/wit* requires further research.

3.23. **PIE **(H)enk✻-* 'a kind of cereal'** (Slav. **ęčь-my* 'barley'; Gk. ὄμπνη, ὄμπη 'food; feed, provender; grain, seed'— with the etymology of Charantier [KZ, 40, 464] appearing to us the most likely, see below): **PNC **ˀəImq̱q̱wV* 'barley'** (Av. South. *oq̱* 'barley'; PHB **ˀõχ* 'barley' > Hunz.. *oh*, Bezht.. *õχ*, Akhv. *ũqa* 'a kind of oats'; PWC **q́Iʷ V* 'barley, millet' > Ub. *χʷa* 'barley', Ad., Kab. *ħa* 'barley', PAT **qʷə-ʒ́* 'millet [a construction with the root **ʒ́ə* 'grain, seed'] > Abkh. Bz. *á-χʷʒ́*, Abaz. *qʷʒə*).

The presently commonly accepted derivation of Slav. **ęčmy* ''barley', **ečь-nъ* 'barley (attr.), barley (meal)' from PIE **ank-* 'bend, bow' ('because the ripe ears of barley bend over')[Berneker: I, 286; Vasmer: IV, 571; ÈSSJa: VI, 63-64]) has a distinct folk-etymological character (in this instance for some reason the impossibility of the phonetic development **ank-* > Slav. **ęč-* is forgotten; the expected form would be **ǫčь-my*). Together with this the derivation of Gk.ὄμπνη from PIE **Hop-* 'work'; riches, wealth' and the direct comparison with forms of the type OInd. *apnas-* (see, for example, *WP*: I, 175; Frisk: II, 390-391) also appears to be unsuccessful (the nasal in the medial remains unexplained). In the face of all this a comparison of the Slavic and the Greek forms seems unreproachable as to form and semantics as well.

4. NAMES OF IMPLEMENTS AND TOOLS, AND ARTICLES OF MANUFACTURE AND EVERYDAY USE

4.1. **PIE **ag✻(e)sī* 'axe'** (Goth. *aqizi*, OEng. *acus*; Gk.ἀξίνη; Lat. *ascia* [*WP*: I, 39]): **PWC **ǵ✻aš✻V*** 'axe' (Abkh. *a-jgʷə́šₘ* 'axe with a small "nose" or protruberance', Abaz. *gʷašʷ* 'hatchet'; Ub. *ǵašʷa* 'axe').[15]

PAK **waš́ə́* '(wood-) chopper' (Ad. *waš́ə*, Kab. *waś*) has to be considered a comparatively late Iranianism (cf. Osset. *wäs*, OInd. *vāçi*) and set apart from the other West Caucasian forms (cf. Shagirov 1977: II, 94).

4.2. **PIE **(H)anətā* 'door jamb'** (Lat. *antae* 'door jamb', '*latera ostiorum*'; OIc. *ond* 'ante-room'; OInd. *ātā, ātāḥ* 'door frame', Avest. *aⁱθyå:* (acc. pl.) 'door jambs'; Arm. *dr-and* 'id.'; see *WP*: I, 59; Mayrhofer, 72; Walde, 34; Vries, 289): **PEC **ˁŏnc̣c̣V* (~ˀ-) 'door'** (Darg.**ˀunčā* > Chir. *unčā*, Ak. *unza* and others; Lak *nuz* 'door [one-folded]'; PTS **ˀãc(u)* 'door' > Tsez. *ac*, Inkh. *ãc*, Hunz.. *ə̃cu*; Av. *nuc̣á* ''door'; PA **hinc̣u* 'door' > Akhv. *inc̣u*, Tind. *hinčū*, And. *hinc̣u* and others).

4.3. **PIE **(H)edhro-* 'fence'** (Germ. **eđra-* > OEng. *eodor* 'fence', OHGerman. *etar*, OIc. *jǫðurr* 'upper horizontal rail of a fence'; Slav. **odrъ* > OSlav. *odrъ* 'flooring, bed', Rus. *odr* 'couch, bed, flooring' *odrina* 'mow (n.), cattle shed, sheep shed' and others. Less promising with regard to this isogloss is Gk. ὄστϱιμον 'stall, cattle shed, sheepscot' for phonetic reasons. See *WP*: I, 121; Vasmer: III, 123-124, where other [doubtful] etymologies of the Slav. form are considered): **PEC **HaʒʒārV* 'enclosure, pen, fold'** (PL **ˀac̱ar* > Tab. *aɫur*, Rut. *addar* 'enclosure, pen, fold'; PN **ʒˀār* 'fence, wattle fence' > Chech., Ing. *zˁar*).

---

[15] It is not wholly clear how PWC **ǵʷašʷV* correlates with PEC **ḳāčwV* 'hammer; stick' (PL **ḳaš* > Ag. *ḳaš* 'sledge-hammer', Lezg. *ḳaš* 'hammer', Kryz. *ḳäš* 'shepherd's staff' and others; Hunz. *ḳuča* '(small) hammer'; Chech. *kāčal* 'mill hammer').

4.4. **PIE _*pert(h)-_ ‘stick’** (Arm. ortʻ ‘vine, tendril’; Gk. πτόρθος ‘sprout, shoot, sprout just out of the ground’; Lat. _pertica_ ‘pole, perch’ [_WP_: II, 49] (otherwise see Walde, 63); more doubtful with regard to this isogloss is OInd. _ka-pr̥th-_ 'penis' and Slav._*prǫtъ_, although a more convincing etymology for the latter has not been proposed [Vasmer: III, 390]): **PEC _*bVrVt̄V_ (~*_w-_) ‘stick’** (Av. _búrdi_ ‘small siskin; baluster’; PA _*birVda_ > Kar. _berda_ ‘pole, Bagv. _berda_ ’stick’ and others; Bezht. _bujda_ ‘stick, baton for a marriage procession’; Darg Ak. _barda,_ Chir. _barat̄a_ ‘axe’ and others).

4.5. **PIE _*n̥si-_ ‘sword’** (OInd. _así-_ ‘sword, broadsword’, Avest. _aŋhū-_; Lat. _ensis_ ‘sword’ [_WP_: I, 324]): **PNC _*nič_ ‘sickle, knife’** (PTsKh _*nišu_ ‘sickle’ > Tsez., Gin. _neš:u,_ Inkh. _nišu_; PA _*nič_ ‘sickle’ > And. _nič,_ Akhv., Tind. _nič_ and others; with metathesis PL _*čin_ ‘sickle’ > Kryz., Bud., Tsakh. _čin_; PWC > Ub. _canə́_ ‘sabre’)[16].

4.6. **PIE _*k̂om-_ (~-_a-_) ‘cover, jacket, shirt’** (OInd. _çāmula-, çāmulyá-_ ‘woolen shirt’; Lat. [Late] _camisia_ ‘shirt’; Germ. _*hama-_ > OIc. _hamr_ ‘cover, jacket, skin, hide’, _*hamiþja-_ > OHGerm. _hemidi_ ‘shirt’ and others, [Walde, 88; Vries, 208; _WP_: I, 386])[17]: **PNC _*χamV_ ‘skin, hide; cloth, fabric’** (PL _*χam_ > Tab. _χam_ ‘skin, hide’, Ag.. _χam_ ‘skin’, Lezg. _χam_ ‘skin, hide, crust, bark’; Av. _χam_ ‘cloth, fabric, linen, sackcloth’; PA _*χ̱Ami_ > Kar. _χ̱ame,_ Akhv. _χ̱ani_ ‘cloth, fabric’; PWC _*tq̱amə_ ‘hide, fur’ > Ub. _tχamə́_ ‘hide, fur’, Abkh. _a-χamə́,_ Abaz. _qamə_ ‘fur coat’).

We note also Kartv. _*qaml̥-_ ‘hide (of sheep, goat)' (see Klimov 1963, 263]; note there also a comparison with Abkhaz).

4.7. **PIE _*k̂ūl(o)-_ ‘spear, point, spike’** (OInd. _çūla-, çūlā_ ‘spear, lance, ‘sharp stake’; Arm. _slak`_ < _*sul-ak`_) ‘spear, dagger’; OIr. _cuil,_ Lat. _culex_ ‘flea, mosquito’ [< ‘pricking’?] [_WP_: I, 465]; the remaining forms that were proposed, collected under the general hypothetical root _*k̂ū-_ ‘point’, are hardly relevant here): **PEC _*ć̣wlɨ_ ‘point, arrow’** (Lak _c̣ila_ ‘knife’, Av. _č̣or_ ‘arrow, ramrod’, Btsb. _c̣ur_ ‘arrow’, PTS _*c̣ulu_ ‘arrow’ > Bezht. _c̣ulu_ and others).

4.8. **PIE _*klāu̯-/*klē̆u̯-_ ‘key, hook for a lock’** (Gk.κληΐς ‘key’, Lat. _clāvis_, Slav. _*ključь_ and multitudinous other forms [_WP_: I, 492-494]): **PNC _*ḳułe_ ‘key, hook, lock’** (Lak _ḳula_ ‘key’, Av. _ḳul_ ‘key’, Kar. _ḳula(-laχa)_ ‘lock’ and others; PWC (with metathesis) >Abkh. _a-lə́ḳ_^{w} ‘lock (of a firearm, lock)’ . The West Caucasian antiquity of this root is attested by Hattic _kaluḫ/qqalu_ ‘bolt, bar’ (Ivanov 1983, 136).

or this root it is necessary to point out as well Semito-Hamitic parallels (_*klʔ_ ‘to lock’ [IllіčSvityč1964, 6]), and also Kartvelian (Laz. _ḳila, ḳola,_ Megr. _ḳila, ḳəla,_ Svan _ḳəl_ ‘key’, as well as Megr. _ḳəlua,_ Svan _ḳl-_ ‘to lock’ [IllіčSvityč 1964, 6; Klimov 1981, 169]). The direction of borrowing in this particular case is, at the present time, difficult to determine.

4.9. **PIE _*k✻er-_ ’vessel’** (OInd. _carú-_ ‘cauldron’, ‘earthenware pot’; OIr. _coire,_ Welsh _pair_ (< _*k_^{w}_erii̯o-_) ‘cauldron’; OIc. _hverr,_ OEng. _hwer_ ‘cauldron’; ? ORuss. _čara_ ‘ cup, goblet’— although for the latter an origin through borrowing is not excluded as well [Vasmer: IV, 316; Mayrhofer, 377; Vries, 272]): **PEC _*ḳwărV_ ‘clay vessel’** (Bezht. _ḳera_

---

[16] A possible Hurrian parallel for this root is reflected, most likely, in Hitt. (< Hurr.?) _zina-_ ‘scissors’.

[17] Of little likelihood is the proposal of I. Teubner (Teubner 1977) that Germ. _*hamiþja-_ is borrowed from North Iranian _*kambicuk_**-**, _*kambicik_**-** ‘clothing made of hemp’ (the traditional etymology of the Germanic word in this connection is not even mentioned).

'clay vessel', Darg.*ḳ^{w}arV* 'large clay vessel'; Lak Bartx. *ḳ^{w}ara* 'vessel for flour; oven for bread'.

West Caucasian parallels to this root are absent, but cf. Hatt. *karam* 'wine vessel' (see Ivanov 1983, 136; borrowing of the Hatt. word from Sem.**krm* 'wine' appears to us doubtful).

4.10. PIE ***g✱erən-/*g✱rāu̯n-*** 'millstone' (Goth. *qaírnus*, O-Isl. *kvern*; Lith. *gìrnos* 'hand-mill; Slav. **žr̥ny* 'millstone'; OInd. *grāvan-* 'stone for pressing Soma [mythical intoxicating drink'; Arm. *erkan* 'millstone'; OIr. *braó, bró* 'millstone' and other Celt. words [*WP*: I, 685]): **PEC **χ̱IwĕrV* mill, millstone'** (PN **ħar, *ħarjV* > Chech. *ħer, ħajra,* Ing. *ħajra,* Btsb. *ħajr* 'mill'; PA **χ^{w}ArV-* > Bagv. *χ^{w}ar-*, Kar. *χ^{w}ar-* and others; Lak *hara(-qalu)*; Khin. (with metathesis) *zoχ* (< **roχ*) 'millstone'; PL **reχ̱I^{w}a* > Lezg. *reʁ^w*, Tab. *raʁI, raʁI-in,* Ag.. *raχ*, Rut. *ruχI*, Tsakh. *joχ̱Ia* 'mill', Arch. *deχI^w* 'millstone').

The PEC base is verbal (cf. PL **reχ̱I^{w}a* 'to grind, mill', Av. *χ̱e-*, Tind.*χ^w-an-*, Chech., Ing. *aha* 'to grind, mill'); there are West Caucasian parallels as well (PAK **ħa-ga* 'to grind, mill') and others).

Derivation of the PIE form from Sem. **grn* (Illich-Svitych 1964, 5) should be rejected, in that the Semitic root signifies not 'to hammer, to spread' but 'threshing floor, place for threshing'. The Kartvelian forms most probably have an Indo-European provenance (Laz *ʁurni*, Georg. Adzh. *ʁurne* 'milling chute') (Klimov 1981, 169).

4.11. **PIE **k̂seul-* 'beam, post, piece of wood'** (Gk.ξύλον 'wood, beam'; Lith. *šùlas* 'post, jamb, doorpost', OPrus. *sulis* 'pole, upright'; Slav. **šulo* 'post, wood block, (short) log, log'; OHGerm. *sūl* post, Goth. *sauls* 'column, post' [Frisk: II, 338-339; *WP*: II, 503; Vasmer: IV, 484-485]): *e* **PEC **ç̌iwłu* 'beam'** (PL **ç̌ul* > Tab. *ç̌ul* 'beam', Ag. *ç̌il* 'beam, thin log', Lezg. *ç̌ul* 'beam' and others; Darg. *ç̌ala* 'pole'; 'knitting needle, fork'; Lak *ç̌ula* 'beam, squared beam or timber, log; Gunz. *ç̌elu* 'diametrical or transversal crossbeam'; Av. *ç̌alu* 'log, beam'; PN **ç̌ar-iḳ* 'transversal ceiling crossbeam' > Ing. *ç̌arga*, Chech. *ç̌erg*).

4.12. **PIE **sel-* 'room, dwelling'** (OHGerm. *sal* 'hall, dwelling' and other Germ. words; Slav. **selo*; see Walde, 582; *WP*: II, 502-503; Vasmer: III, 596. It is very probable that Hitt. *šeli-* 'shed, barn' belongs to this same root; see Friedrich: II, 190, cf. especially Germ. words of the type OIc. *sel* (**salja-*) 'shepherd's cabin, hut, shack'): **PEC **čaIIe* 'enclosure, pen, sheepfold, fence'** (PL **čal* > Rut. *ačal* 'enclosure, pen, sheepfold', Ud. *čal* 'fence [to keep in]', and others; Av. *čalí* fence [to keep out], wattle fence; fence [wooden]'; Darg.Ak. *čalli* 'fence [wooden]'; Tind. *čali* 'enclosure, pen, sheepfold' and others).

4.13. **PIE **Hu̯erk-* 'wheel'** (Hitt. *ḫ̮urki-*, Tokh. A *wärkänt-* 'wheel'; see Ivanov 1979, 146-147; the other Indo-European parallels [Ivanov 1975, 404], are not completely hopeful): **PNC **ħəlkwV (~ -ɨ-, -o-)* 'vehicle'** (Darg. *urkura* 'a kind of bullock cart', Av. *hokó* 'a kind of bullock cart, cart [four-wheeled]'; And. *ink^{w}a* 'kind of bullock cart'; PAK **k̄^{w}ə* > Ad. *k^{w}ə*, Kab. *g^{w}ə* 'bullock cart, cart [four-wheeled]; on the possible original meaning of 'wheel' inherent in the Adygh form, see Yakovlev 1948, 281).

A. K. Shagirov (Šagirov 1977: I, 113) matches the Caucasian material to PIE **u̯oĝho-* 'vehicle, carriage [for loads], vehicle, carriage', which is inadmissible according to phonetic considerations. The root in question, apparently, was represented in Hurro-Urartian, cf. Hitt. *ḫ̮ulukanni-* 'light carriage', Akk. *ḫ̮uluganu* (*ḫ̮iluganu*), a borrowing from a Hurrian source (judging by the shape of the base in *-nV*, typical for Hurrian). The presence of *-l-* in the presumed Hurrian form supports the reconstruction **-l-* in PNC (done according to systematic considerations, namely according to the correspondence

Darg.-*r*-: Av. -*Ø*-: And. -*n*- in the medial position, in combination with a following velar consonant.)

4.14. **PIE **g✱eru-* 'spit [for roasting], point, spike'** (Lat. *veru* 'spit; javelin, lance'; OIr. *biur* 'id.' and other Celtic words; Goth. *qaíru* 'stake; needle, sting'; Avest. *grava-* 'stick'; see Feist, 386 and others): **PWC **g✱ərə* 'needle, knitting needle'** (Abkh. *a-g*^{w}*ə́r*, Abaz. *g*^{w}*rə* 'needle, knitting needle'; PAK **g*^{w}*ərə-ʁ* 'pintle' > Ad. *g*^{w}*ərʁ*, Kab. *g*^{w}*ərəʁ*; [Abdokov 1973, 46]. In the first part of the Adygh word one must not single out the component **k̄*^{w}*ə* 'aruba [a kind of bullock cart]', despite Shagirov [Šagirov 1977: I, 119]; in the Adygh form in such a case as this one would expect *k*^{w}-).

5. OTHER WORDS

5.1. **PIE **ār(H)o-* 'space'** (Lith. *óras*, Latv. *ars* 'space, open place, open area'; OInd. *āre* 'in the distance, far off', *ārā́d* 'from a distance'; Lat. *ārea* 'free space; threshing floor'; see Walde, 42 and others. Not excluded as a possible connection here is Hitt. *arḫa-* 'courtyard', Alb. *arë* 'field' [Hamp 1958], although in the Albanian form the reason for the shortened reflex of the first vowel is unclear. See also Orël 1984, 319: **PEC **ʔār(H)V* 'field, plain'** (Lak *ar* 'plain'; Tab. *ar* 'marsh'; PN **ʔārV* > Chech., Ing. *ārē* 'floor; plain, steppe').

5.2. **PIE **(H)aĝro-* 'field'** (OInd. *ájra-*; Gk.ἀγρός; Lat. *ager*; Goth. *akrs* and others [*WP*: I, 37]): **PEC **ʕŭc̣ćŭrV* (the same with metathesis **ʕŭrŭc̣ćV*) 'meadow, glade, clearing'**: PL **c̣ura* (~-*o*-) 'common pasture, meadow' > Tab. *c̣ur* 'pasture', Ag. *c̣ir* 'meadow', Lezg. *c̣ur* 'common pasture, pasture (where cattle graze)'[18], 'meadow, pasture (where cattle rest the night)'[19], Rut. *c̣ir*, Tsakh. *c̣ijai* 'earth'); PA **hAc̣c̣a* 'meadow, 'grass-plot'; Chech. *irzū* 'rooted out, stubbled earth; seeded, sowed forest clearing).

. M. Illich-Svitych (Illič-Svityč 1964, 4) proposes for the Indo-European word a Semitic origin (Sem. **ḥḏr* 'enclosed, fenced-in plot, courtyard'), but this has little probability for semantic reasons (PIE **aĝro-* does not, as it were, incorporate the idea of 'enclosing'). Comparing the Semitic form with PEC **Haʒʒārv* 'enclosure, pen, sheepfold, fence' (see above) appears more likely, with which we in turn compare PIE **edhro-* 'fence'.

5.3. **PIE **dholo-* 'valley'** (Goth. *dal*, OHGerm. *tal* and other Germ. words; Slav. **dolъ* [*WP*: I, 864]). The Greek parallel is doubtful — θόλος 'cave, round structure, round-shaped paired bath' [Frisk: I, 677]: **PEC **ʒʒəlHV* 'plain, plateau'** (PL **c̣̱ol* 'low place, depression' > Lezg. *ṭul*, Rut. *dɨl*, Kryz. *tul*; Av. *c̣̱or* 'plain'; Cham. *c̣̱edo* < **c̣̱erHo* 'table-land, plateau').

5.4. **PIE **mar(o)ĝ-* 'boundary, border'** (Avest. *marəza-* 'boundary, border, bordering region'; Lat. *margo* 'edge'; OIr. *mruig*, *bruig* 'boundary, border' and other Celt. words; Goth. *marka*, OHGerman *marcha* 'boundary' and other words [Walde, 369; Feist, 347]; **PEC **mŏrqqwV* stripe, strip, mark'** [PL **marχ̱*^{w} 'strip of mowed grass' > Arch. *maχ* 'part of a meadow apportioned to one woman for mowing', Lezg. *marʁ*^{w}, Tab. *marʁ*^{w}*al*, Bud. *merʁ* 'strip of mowed grass'; Av. *muq̱* 'line, mark'; PTs **muq* >Inkh. *muq* 'wrinkle;

---

[18] Rus. выпас [RT].

[19] Rus. пастбище [RT].

row'; Bezht. *muq* 'stripe, strip'; PA **muq̱V* > Akhv. *muq̱u* 'line [of text],' God. *muqi* 'stripe, line' and others; PN **moʁV* > Chech. *moʁa*, Ing. *muʁ* 'line [of text])'.

5.5. **PIE **(H)areĝ-/(H)r̥ĝ-* 'silver'** (OInd. *rajata-*, Avest. *ərəzata-*, Lat. *argentum*, OIr. *argat*, Arm. *arcat*\`; with another suffix Gk. ἄργυρος [*WP*: I, 82]): **PNC **ʔĕIrVco* // **ʔoIrVc(w)e* 'silver'** (PL **ʔars-* > Arch. *arsi*, Tab., Ag. *ars*; Darg. *arc*; Lak *arcu*; PTsKh **ʔos* > Inkh., Khwarsh. *os*; Av. *ʕarac*; PA **ʔorci* > And. *orsi*, Akhv. *arči*, Tind. *asi* and others; PWC **rVźʷV-n* / **rVśʷV-nə* > Abkh. Bz. *a-raʒ́ná*, Abaz. *rəzna*; Ub. *dašʷanə*. Irregularly PAK **ƛ̄əž́əná* > Ad. *təž́ən*, Kab. *dəźənə* 'silver' [**ƛ̄əźənə* is expected]. To this is related, undoubtedly, Hurr. *ı/ošḫı/o(-ne)* 'silver' with the regular development **-rc-* > *-sḫ-*; see D'yakonov, Starostin 1988).

The Indo-European name for silver is usually said to derive from the root **Harĝ-* 'light, bright' (cf. OInd. *arjuna-*, Gk.ἀργός, Hitt. *ḫarki-* and others). If this is correct, one must consider the North Caucasian root to be an Indo-Europeanism. However, the fact stands out that the Indo-European forms have the meaning 'silver' only in suffixed form, whereas the majority of the Caucasian forms have no suffixes. For this reason for PIE **(H)areĝ-* 'silver' the possibility of a secondary comparison with the root **Harĝ-* 'light, bright' is not ruled out.

R. Lafon (Lafon 1933), and before him P. Charaya (Čaraja 1912), compared the North Caucasian forms with Kartvelian ones (Kartv. **wercıχl̥-* 'silver' [Klimov 1963, 83]). To us the Kartvelian form appears to be a relatively late Hurrianism (Hurr. *ı/ošḫı/o-* is assumed to be early Hurri-Urartian [prior to the loss of *-r-*] **orcḫ-*, corresponding rather exactly to the Kartvelian form); despite Vych. Vs. Ivanov (Ivanov 1983, 105) the sound-consonance of Hurr. *ı/ošḫı/o-* 'silver' and Lith. *auksas* 'gold' (and other Indo-European forms related to the latter) is, most likely, coincidental.

5.6. **PIE **u̯es(no-)* 'worth, price, to sell'** (OInd. *vasna-*; Gk.ὦνος; Arm. *gin*; Lat. *vēnus*; Slav. **věno*; Hitt. *u̯aš-* 'to purchase', *u̯ešii̯a-* 'worth'. See *WP*: I, 311; Friedrich: III, 248-253; on the belonging of the Slav. form here see Trubachev 1975); **PNC **u̯VjcV* 'sheep, worth'** (PN **ʔust-iʁ-* 'ram' > Chech. *üstaʁ*, Ing. *ustaʁa*, Btsb. *ujstχ*; PWC **wasa* > Abkh., Abaz. *wasa* 'sheep'; Ad., Kab. *wāsa* 'worth, cost').

A complex case: G. Deeters (Deeters 1957) considers the West Caucasian forms to be borrowings from Indo-Iranian (in fact, for Indo-Iranian one may reconstruct **wasā(-ka)* 'worth, price' on the base of Pers. *behā*, MPers. *vahāk* 'worth' [Horn 1893, 55]). However, the semantic development 'worth' > 'sheep' appears to us of small probability (the reverse is far more natural). Moreover, the antiquity of the meaning 'sheep' in the root under discussion would seem to be supported by Hatt. *(wa)-zar-* 'sheep' (on a comparison of the latter see Ivanov 1983, 142), which, in addition, sheds light on the morphological structure of the formation in question, indicating that **uV-* is historically a prefix. It is not out of the question that Kartvelian **wacı-* 'ram' also has a North Caucasian source (Klimov 1963, 82). In such a case it follows that the reverse direction of borrowing should be recognized (from North Caucasian to Indo-European).

5.7. **PIE **mizdho-* 'payment'** (OInd. *mīḍhá-*, Avest. *mīžda-*; Gk.μισθός; Goth. *mizdō* and other Germ. words; Slav. **mьzda* [*WP*: II, 301]): **PNC **maśwV (*~ə-)* 'worth, trade'** (PL **mašā* >Arch. *mas* 'worth', Tab. Dyub. *mašu q̱āvq̱us* 'to purchase [perf.]', *mašu duvus* 'to sell [perf.]', Lezg. *mas* 'worth, cost', *masa gun* 'to sell [imperf.]', *masa q̱ačun* 'to purchase [imperf.] and others; Darg. Ak. *mas* 'article of trade, good, ware, commodity';

Lak *maša* 'trade'; PWC **ś̌ʷa* 'worth, price', to pay' > Abkh. *a-š$_m$a-ra*, Abaz. *šʷa-ra* 'to pay', Ub. *ś̌ʷa* 'worth, price').

The initial syllable **ma-* in East Caucasian must be a prefix; given that, the secondary loss of **ma-* in West Caucasian is not ruled out (verbal roots beginning with *m-* are absent here). In the Indo-European form one can observe the component **-dho* (< **dhe(H)-* 'to put, to place') and reconstruct an original combination of **mis-* 'payment' + **dhe(H)-* 'put down, place'. The first component **mis-* (or in its hypothetical full stage), **meis-* or **mois-*), coordinates or links up well with PNC **maśwV*, as it seems. How does PIE **moiso-* 'ram, sheep' relate to this?[20]

5.8. **PIE **k̂orkā(-lā)* 'gravel, pebble'** (OInd. *çarkarā, çarkara-* 'gravel, pebble'; Gk.κϱόκη, κϱοκάλη 'pebbles' [*WP*: I, 463]. Probably, to this it is necessary to relate Germ. **haruga-* 'pile of stones' [with a secondary meaning of 'altar', 'sacred place'] < **k̂ork(r)ó-*): **PNC **ḳĕrḳĕlV/*ḳĕrḳĕnV* 'pebble', grain, seed, kernel [dim.]; egg'** (PL **ḳăḳäl* 'pebble, gravel' > Lezg. *k(i)ḳal*, Tab. *ḳeḳel*, Rut. *ḳɨḳal*, Tsakh. *ḳaḳalaj*, Kryz. *ḳɨḳäl*; PHB **ḳeḳe* > Hunz., Bezht. *ḳeḳe* 'grilled, roasted, broiled grain; Av. *ḳorḳonu* 'grape; berry'; PA **ḳorḳonV* 'egg' > God. *ḳ́arḳ́anu*, And. *ḳorḳon* and others; PWC > Ad. *č̣́anč̣́a*, Shaps. *ḳ́anḳ́a* 'egg'. Cf. as well Hurr. *kirikiriannə* 'bump, lump [on the skin]).

A similar root is present in the Kartvelian languages as well (Kartv. **ḳaḳal-* 'walnut', in Megr. 'grain, seed, core, kernel, piece' [Klimov 1963, 105]), and a North Caucasian origin is not ruled out for it; Arm. *ḳaḳal* 'large nut' undoubtedly comes from Kartvelian [Kapantsyan 1952, 36-37]. G. A. Klimov in several works calls attention to the similarity of the Caucasian forms (besides, as well, a comparison of the Kartvelian and West Caucasian forms, but, however, leading to a comparison only of forms in the Lezgian languages alone [Klimov 1963, 105; 1969, 292; 1972, 352; Vinogradova, Klimov 1979, 158]). However, the attempt to derive the Lezgian words from Armenian (in the latter work), apparently, has no base of support. Cf. also Šagirov 1977: II, 133.

In connection with the forms without medial *-r-* attention may be directed as well to PIE **kaghlo-* 'pebble' (Gk. κάχληξ 'stone; rock, pebbles', OHGerm *hagal* 'hail' and others; see *WP*: I, 338), of which the relationship to the root under discussion is not wholly clear.

5.9. **PIE **keuk-* 'heap, pile'** (Goth. *hiuh-ma* 'heap; large quantity', *hūhjan* 'pile up, collect', OIc. *haugr* 'hill' and other Germ. words; Slav. **kuča*; Lith. *kaũkas* 'bump [from an injury]', lump', *kaukarà* 'hill'; see *WP*: I, 371, where many more words with a meaning of 'crooked, bent, to bend, to bow' and so on are listed, words seemingly having no relation to the root under discussion): **PEC **q̇q̇wīIq̇q̇a* (~ *-ɨ̄-*) 'group, large quantity; hill, elevation'** (Lak *q̇uIq̇a* 'group' /Lak > Darg.*q̇uq̇aI* 'group'/; Hunz.. *q̇oq̇ol* 'crowd'; Av. *q̇o̱q̇a̱* 'detachment, detached force, group', PA **q̱̇wiq̇a̱* > God. *q̇uq̇o* 'group', Cham. *q̇oq̇̄ila* 'gather into groups (of people)'; belonging here as well, apparently, are Darg. *q̇aIq̇* 'hill' and PN **bʔōʁa(m)* (*bʔ-* regularly < **q̇w-*) 'post, pole, pillar, column').

5.10. **PIE **k̂i̯āu̯ero-* 'north, north wind'** (Lat. *caurus* 'north wind'; Lith. *šiáurė* 'north', *šiaurỹs* 'north wind'; Slav. **sěverъ* 'north'; OHGerm *skūr* 'Ungewitter' [*WP*: I, 377; Walde: 108]): **PEC **ccōjwɨ̄lhV* 'winter, autumn'** (PA **čibirV* 'winter' > Akhv. *čibera*, Tind.

---

[20] It is interesting that Darg. *mas* besides the meaning 'article of trade, commodity' also has the meaning 'ram'. It is not ruled out that in fact 'ram' was the original meaning of this root and that we are observing here the very same semantic evolution as in the preceding case.

čibar, Ba. *šibara* and others; PL **cowɨl* 'autumn' > Tab. *č$_{m}$ul*, Ag. *cul*, Tsakh. *cuwul*, Arch. *soƚ-*, Lezg. *zul*; PTs **šɨbə(r)* > Tsez. *sebi*, Bezht. *sibora*, Hunz. *sɨbər* ''autumn'; Btsb. *sṭabo* 'autumn' and others; the West Caucasian parallel (PWC **bẑə* > Ub. *bẑa* 'winter', Ad. *bẑəħa*, Kab. *bźəħa* 'autumn') gives rise to doubt not so much due to the loss of the sonants (a regular development) as to the not quite clear correspondence **cc* : **ẑ*.

5.11. **PIE **k̂ek✻-* 'manure, dung'** (OInd. *çákr̥-t*, Gk.κόπρος, Lith. *šìk-ti* 'cacare' [*WP*: I, 381; Fraenkel, 982]. Here Hitt. *šakkar* [with a variant *zakkar*] 'manure, dung, faeces, excrement' should be seen as related: the morphological parallelism of OInd. *çákr̥-t*, gen. *çaknáḥ* = Hitt. *šakkar*, gen. *šaknaš* is obvious, and cases of PIE **k̂* reflected in Hitt. as *š* also are not uncommon, cf. Hier.-Hitt. *aśuwa-* 'horse', Hitt. *šamana-* 'corner-stone, foundation' and others): **PNC **čVq̇q̇IwV* 'faeces, excrement, mud'** (Tab. *čᵛq̱I-ur* 'excrement, droppings', Rut.*čuq̇Iʷ* 'mud on the clothing'; PWC **ċəq̇ʷə (~ *č̣-)* 'droppings', Ub. *ċaq̇ʷ* 'cow droppings', Abaz. *-q̇ʷəç̣* 'manure, dung').

5.12. **PIE **t✻er-* 'curdled milk, curds'** (Avest. *tūiri-* 'milk that has curdled, whey', OInd., Prakrit *tuvara-* 'astringent', Apabhramsha *tūra-* 'cheese'; Gk.τῡρός 'cheese'; Slav. **tvar-ogъ* 'lac coagulatum'; see *WP*: I, 710, where the words examined are totally arbitrarily related to PIE **tēu-* 'to swell' [Vasmer, v. 4, 31; Frisk: II, 948; Mayrhofer, 516; Turner, 336]): **PNC **ʔV-twVr-* 'become rolled up, to turn sour, to rot, putrefy'** (PL **ʔitʷar-* > Arch. *tar-as* 'to roll up (of milk)', *tʷ-as* (< **tʷr-as*) 'to fade, droop, wither', Bud. *ʕatar* 'to ferment, go sour', Lezg. *arut-iz* 'to roll up (of milk)'; Darg. Urakh. *-irt-* 'to become thickened'; Lak (redupl.) *tata-* 'to thicken'; Av. *-et-* (< **-etr-*) 'to become rolled up', *tur-* to rot, putrify, decompose'; PA **it(ʷ)it(ʷ)-* > Kar. *-etit-*'to sour, turn sour', **tʷir-* 'to rot, putrefy' > Kar. *tor-*, Tind. *tor-d-* and others, arbitrarily **tʷiri* 'brine for cheese'; PN **-ăt-* > Chech. *-at-*, Btsb. *l-at-* 'to become rolled up'; PWC **tʷa* 'pus, matter, to become rotten, fermented' > Abkh. *a-tʷá*, Kab. *wa-ta(-ps)* 'pus', Ub. *ṭʷa-* 'to become rotten, fermented [with a secondary ejective quality]).

5.13. **PIE **pr̥k-* 'heat, burning coal'** (Lith. *pir̃k-šnys*, Latv. *pirk-sti*; OIr. *riches* 'coal', Bret. *regez* 'heat, coal' (**pr̥ki-stā*); see Fraenkel, 506): **PWC **pərəɣə* > Abkh. *a-pərʁə́*, Abaz. *pərʁa* 'heat, burning coal'**.

The comparison is rather doubtful due to the limited spread of the root both in the Indo-European and in the North Caucasian languages (from the East Slavic languages cf., perhaps, Lak *purḳu* 'smoke'?).

5.14. **PIE **medhu-* 'honey'** (OInd. *mádhu-* 'honey; sweet'; Avest. *maδu* 'berry wine'; Toch. B *mit* 'honey'; Gk. μέθυ 'wine'; OIr. *mid* 'drink made with honey' and other Celtic words; O-Isl. *mjǫðr*,OHGerm *metu* 'drink made from honey'; Lith. *medùs* 'honey'; Slav. **medъ* 'honey' [*WP*: II, 261]): **PEC **hwĭmĭʒʒu* 'honey'** (PL **ʔimc̱̣* > Tab. *jič̄ʷ*, Ag. *it̄ʷ*, Tsakh. *ut*, Arch. *imc̣* and others; Khin. *nüc̣*; Darg.**waða* > Ak. *warʔa*, Chir. *waza*, Kub. *wada* and others; Lak *nic̣*; PTS **nucə* > Tsez. *nuci*, Inkh. *nucu*, Hunz. *nucu*, Bezht. *nuco* and others; Av. *hoc̱̣ó*; PA **hunc̱̣i* > Akhv. *unc̱̣i*, Tind. *hunči*, And. *hunc̱̣i* and others; PN **moc̣* > Btsb. *moc̣*, Chech., Ing. *moz*).

The PEC form is derived from the root **mĭʒʒV* 'sweet' (cf. Darg.**muði-* > Ak. *muʔi-*, Chir. *mizi-* and others; Lak *nac̣u-*; PA **mic̱̣a-* > Akhv. *mic̱̣a-*, Tind. *mičā-*, And. *mic̱̣a* and others; PN **măc̣er-* > Btsb. *mac̣arin*, Chech., Ing. *merza*). In a later era the Indo-Iranian name for honey penetrated the East Caucasian languages in a new form (PEC **mäIdwV* 'a kind of drink', see above).

In view of the fact that for the Indo-European root a North Caucasian source is absolutely certain (on the correspondence **ʒʒ* : **dh* see below) – Sem. **mtḳ* 'sweet' (which V. M. Illich-Svitych [Illich- Svitych 1964, 5] considers the source of Indo-European **medhu-*) – it follows that one must either consider it an Indo-Europeanism (cf., in part, such formations as OInd. *madhuka-*, Slav. **medъkъ*), or either in general not submit it to comparison. It should be noted that the East Caucasian root finds direct parallels in the Semitic and Cushitic languages (cf. Sem. **m(j)z*, Arab. *miz-r* 'a kind of beer' and others; Cush. *caxo mēz*, Kuara *mīz* 'drink made with honey'; see Militarev, Starostin 1984).

5.15. **PIE **reugh-* 'sour milk, butter'** (Avest. *raoγna-* 'butter', Pers. *rōγan*; OIc. *rjōmi* 'cream', OEng. *rēam*, MHGerm. *roum* 'cream, sour cream; OPrus. *raugus* 'rennet ferment', *ructan dadan* 'sour milk', Lith. *ráugti* 'to make sour', *rū́gti* 'to turn sour', *ráugas* 'ferment [n.]' and others [*WP*: II, 357-358; Vries, 449]; in the Baltic languages the root underwent a secondary contamination with **reug-* 'belch', but these roots must be distinguished one from the other): **PNC **renχ̱w̄V* 'butter; milk'** (PL **jimχ (~-χ̱)* [< **rimχ̱*] > Arch. *inχ* 'butter', Kryz., Bud. *juχ* 'milk'; with a regular metathesis of sonants are Darg. Chir. *nerχ*, Kub. *nēχ* and others 'butter', Lak *nah* 'butter', Av. *naχ* 'butter, fat'; Ad., Kab., Ub. *tχ*^{w}*ə* 'baked butter' [Adygh. and Ub. *t-* in this case may go back to PWC **r-*, making it possible to reconstruct PWC **rəχ*^{w}*ə*; unfortunately, the Abkh. words, which could have confirmed this, are lacking; Abkh. *a-χ*^{w}*ša* 'baked butter', proposed by A. I. Abdokov /Abdokov 1973, 68/ and A. K. Shagirov /Šagirov 1977: II, 78/, must be distinguished from this root due to phonetic considerations]).

5.16. **PIE **sūr-/*s✻er-* 'sour'** (OHGerman. **sūr* 'sour' and other Germ. words; Lith. *súras* 'salty', *súris* 'cheese'; Slav. **syrъ*; OIr. *serb*, Welsh *chwerw* 'bitter' [**su̯eru̯o-*]; see [*WP*: II, 513]): **PNC **š:wirV* 'curds, milk and similar'**. (PL **š:*^{w}*ir* > Ag. *š:ür* 'liquid brynza / sheep's milk cheese'; PN **šŭra* 'milk' > Chech., Ing. *šura*, Btsb. *šur*; PAT **a-š*^{w}*ə* 'cheese' > Abkh. *aš*$_{m}$, Abaz. *aš*^{w}*ə*).

It is not yet clear by what path this root got into several modern Iranian languages (Pers. *šōr*, Pehl. *sōr*, Sak. *sura-* 'salty' (Bailey 1967, 345; Abaev 1979, 170-171]), from where it spread to Turkic (Räsänen 1969, 449) and secondarily into the East Caucasian languages (cf. Tab., Lezg. *šur* 'curds', Kryz. *šur* 'a kind of simple kvass'; Chech. *šowr* 'cheese brine, cheese pickle' — all of these are relatively new borrowings, far from claiming PEC or PNC antiquity).

5.17. **PIE **lengh-* 'shame, to put to shame'** (Gk.ἐλέγχω 'to slander, to disgrace, to defame', ἔλεγχος 'disgrace, slander'; Latv. *langāt* 'to swear [maledict], to curse'; MIr. *lang* 'shame, deceit' [*WP*: II, 436; Frisk: I, 486-487]; cf. also Hitt. *lenk-* 'to swear [oath], to vow' *lenka-* 'vow, oath' [Kronasser 1956, 171]): **PEC **ɫimqqIV (/*rimqqIV)* 'shame; alarm, anxiety'** (PL **liwqI/*riwqI* 'shame' > Arch.*libχI*, Lezg. *reʁü*, Rut. *rɨqI*, Kryz. *reħ*; Lak *liχ̱aI-wu* 'alarm, anxiety' [> Arch.*laχ̱Iə-ṭi*], Av. *límħi* 'a guilty look, aspect, appearance', *límħ-ize* 'to look, watch guiltily').

The isoglosses examined above are sufficient for an attempt at establishing correspondences between the PNC and PIE phonological systems; as is well known, a more or less regular system of correspondences can be established not only on the basis of a multitude of ancient related lexemes but on a multitude of borrowings as well.[21]

1. SYSTEM OF CONSONANTISM

1.1. Labial consonants

In PNC four labial plosives are reconstructed: voiceless (aspirated) _p_, tense (unaspirated) _p̄_, voiced _b_ and ejective _ṗ_, and three sonorants (_w_, _u̯_ and _m_). Between PIE and PNC the following correspondences are reconstructed:

PNC	PIE	Examples
*p	*p	3.9. (*pwīIłV — *pel-), 3.10 (*pinc̣c̣wV — *pĭ̄tu-), 5.13 (PWC *pərəγə — *pr̥k-), 2.10 (*pwərccV : *pērs-nā)
*p̄	*bh	2.12 (*p̄üggV-b- : *bhāĝhu-), 3.13 (*p̄ŏnqqIwe- : *bhā(u)ĝo-)
*b	*bh-, *-u̯-	3.14 (*bVrč̣- : *bhar(e)s-), 3.1 (*HVbVgV : *(H)auiĝ-)
*ṗ	*b(h)	1.9 (*GG(w)V̄IṗV : *gʷēb(h)-)
*m	*m	2.13 (*cwă̄jmi : *saim-), 2.14 (*ʒ́wĕmV : *stomen-), 3.4 (*kkärmuśV : *kermus-), 3.22 (*ˤäImćə : *amas-l-), 4.6 (*χamV : *k̂om-), 5.4 (*mŏrqqwV : *mar(o)ĝ-), 5.7 (*maśwV : *miz-dho-), 5.14 (*hwĭmĭʒʒu : *medhu-)
*w	*bh-, -u̯-	3.12 (*wēIrqwɨ : *bherəĝ-); 1.2 (*ħɨ̄ncwV : *ek̂u̯o-), 1.6 (*p̄äHäḳwV : *pek̂u-), 2.3 (*kwāhnɨ : *Huələnā), 2.9 (*c̣c̣ākwV : *tu̯ak-), 4.7 (*ć̣əwlɨ : *k̂ūl-), 4.12 (*č̣ɨwłu : *k̂seul-), 5.10 (*ccōjwɨ̄lhV : *kiāu̯ero-), 5.12 (*ˀV-twVr- : *tu̯er-), 5.16 (*š:wĭrV : *su̯er-/sūr-), 3.10 (*pinc̣c̣wV : *pĭ̄tu-)
*u̯	*u̯	5.6 (*u̯VjcV : *u̯es(-no-)

To these rules it is necessary to append several observations.

1. In a great number of cases we observe in PIE in place of the North-Caucasian initial consonants _*p̄-_, _*b-_, _*w-_ not the expected _*bh-_ but voiceless _*p-_. Cf. examples 1.6 (_*p̄äHäƛ̣wV_ : _*pek̂u-_), 1.10 (_*p̄Vš́wV_ : _*p(e)isk-_), 3.11 (_*biInḳḳwV_ : _*peuk̂-_), 4.4 (_*bVrVƫV ~ w-_ : _*pert(h)-_), 1.7 (_*wāIrƛ̣ƛ̣wə_ : _*pork̂o-_). This divergence is easily explained: in PIE the

---

[21] A certain number of the comparisons proposed above may prove in fact to be later borrowings (already after the breakup of PIE), insofar as contacts between the Indo-European and North Caucasian languages continued, seemingly, into later epochs as well. This especially relates to those of the Indo-European roots examined above that are attested only in a few of the daughter languages and are characterized by irregular reflexes. There is no doubt, however, that in the overwhelming mass of cases it is reasonably certain that the roots examined above are reconstructions on the PIE level.

combination within one root of a voiced aspirated consonant and voiceless consonant was prohibited, as a result of which a voiced aspirated consonant before a following voiceless consonant became voiceless.[22]

2. The sonorant _*m_ regularly corresponds to PIE _*m_ (see above), but in those instances when it is the first element of a medial cluster of consonants, in PIE we regularly have _*n_: cf. examples 2.5 (_*q̇ămq̇ə_ : _*kenk-_), 3.23 (_*ʔəImq̱q̱wV_ : _*(H)enkʷ-_), 5.17 (_*łimqqIV_ : _*lengh-_).

3. The sonorant _*w_ in PNC has a special status: namely, it can occur as the second element of a consonant cluster (something interdicted for the other sonorants). In an independent position (that is, in initial position, in intervocalic locations, and as the first component of a consonant cluster) its reflex in PIE is realized in the same way as that of PNC _*b_ (that is, as _*bh_ in initial position, but as _*u̯_ in other positions. In the position of the second component of a cluster it can also be reflected in P as _*u̯_ (cf. examples 1.2, 1.6, 2.3, 2.9, 4.7, 4.12, 5.12, 5.16), and apparently, 2.9 and 4.14 as well, where it is necessary to presuppose it has undergone metathesis. However, the glide character of the pronunciation of _*w_ in these cases in PNC (cf. the treatment of similar clusters as labialized consonants in many daughter languages, often with a secondary loss of labialization) caused, apparently, several other types of correspondences as well of PNC _*w_ in PIE:

a) Metathesis of labialization (PIE dipthongs with _-u-_), cf. examples 3.11 (_*bĭInḳḳwV_ : _*peuk̂-_), 3.13 (_*p̄ŏnqqIwe_ : _*bhā(u)ĝo-_), 5.9 (_*q̇q̇wīIq̇q̇a_ : _*keuk-_), 5.15 (_*renχ̱wV_ : _*reugh-_);

b) Clusters of velar consonants with _*w_ reflected as PIE labiovelars, cf. examples 1.9 (_*GG(w)V̄Iṗ V_ : _*gʷēb(h)-_), 2.2 (_*lăHăḳwV_ : _*li̯ekʷ-_), 2.7 (_*qqwata_ : _*gʷet-_), 2.11 (_*χ̱winḳwV_ : _*kʷenkʷe_ > _*penkʷe_), 3.8 (_*χwɨ̄rk(w)V_ : _*kʷerkʷo-_ > _*perkʷo-_), 3.23 (_*ʔəImq̱q̱wV_ : _*(H)enkʷ-_), 4.1 (PWC _*ǵʷašʷV_ : _*agʷ(e)sī_), 4.9 (_*ḳwărV_ : _*kʷer-_), 4.10 (_*χ̱IwĕrV_ : _*gʷerən-_), 4.17 (PWC _*gʷərə_ : _*gʷeru-_);

c) Full loss of labialization. This phenomenon is observed after labial consonants (it should be noted that in such cases the reconstruction of _*w_ in PNC as well appears fairly hypothetical), cf. example 3.9 (_*pwīIłV_ : _*pel-_); fairly often after apical and lateral consonants, cf. examples 1.7 (_*wāIrƛ̣ƛ̣w_ : _*pork̂o-_), 1.8 (_*ʡɨIc̣wɨlV_ : _*ster-_), 1.10 (_*p̄Vš́wV_ : _*p(e)is-k-_), 2.13 (_*c̄wăjmi_ : _*saim-_), 2.14 (_*ʒ́wĕmV_ : _*stomen-_), 2.15 (_*ʒwilerʒwV_ : _*s/p/elĝh-en-_), 2.17 (_*ʔərəc̄wV_ : _*orso-_), 3.3 (_*c̣wēKV_ : _*k̂ēko-_), 3.15 (_*nəHāc̣c̣wV_ : _*nedo-_), 3.17 (_*λwint̄V_ : _*lento-_), 3.18 (_*λ̱wĭnʔɨ_ : _*lī̆no-_), 3.20 (_*ʔăǯwV_ : _*(H)aiĝ-_), 4.1 (PWC _*ǵʷašwV_ : _*agʷ(e)sī_), 5.7 (_*maśwV_ : _*mizdho-_). However, cases of the loss of labialization after back consonants as well are not infrequent, cf. examples 2.4 (_*kwVśV_ : _*ka(i)s-_), 2.6 (_*ḳwVnV_ : _*konə-mo-_), 3.12 (_*wēIrqwɨ_ : _*bherəĝ-_), 5.4 (_*mŏrqqwV_ : _*mar(o)ĝ-_).

4. By analogy with other local series (see below) we would expect that PIE voiceless _*p_ should correspond to PNC ejective _ṗ_. However, in the sole example (1.9 _*GG(w)V̄IṗV_ : _*gʷēb(h)-_) we have _*b(h)_. It should be noted that in PNC _*ṗ_ is an exclusively

---

[22] In principle a different development could have taken place, namely the voicing of a voiceless consonant. In connection with this it is interesting to consider PIE _*bhū̆ĝo-_ 'goat, ram' (see _WP_: I, 189) in the capacity of a possible etymological doublet for _*pek̂u-_ (from PNC _*p̄äHä̆ḳwV_), although the difference in the vocalism is difficult to explain. Cf. also Germ. _*barha-_ 'porcus castratus', which does not have the hoped-for etymology and may reflect an archaic type of the root _*bhork̂o-_ (< PNC _*wāIrƛ̣ƛ̣wə_).

rare phoneme with not very clear-cut reflexes; we do not exclude that in this case it is necessary to reconstruct PEC *_p̄_ (cf. the PL form *_q̱olp̄_), but to consider abruptness in PN secondary. In any case, on the basis of only one example it is difficult to reach conclusions of any sort.

An examination of the correspondences of consonants in the labial series already leads us to the conclusion that the isoglosses examined above are the result of borrowings from PNC (or from some source very close to PNC) into PIE. In reality, the development of *_bh_ > _p_ in the cases of the type *_pork̂o-_ should have taken place already on Indo-European soil; had the direction of the borrowings been from PIE into PNC this development would be completely incomprehensible, because in the place of a single PIE *_p_ we have in PNC four reflexes (*_p_, *_p̄_, *_b_ and *_w_). For exactly this reason it is easy to explain the loss of the labial articulation in the series of consonant clusters when the borrowing is from PNC to PIE, but it would be difficult to explain its secondary appearance in PNC in the instance of reception via the opposite direction of borrowing. The identical reflex in PIE of the PNC phonemes *_b_ and *_w_ is easy to explain, knowing that *_w_ in PNC in an independent position was pronounced, most likely, as a labio-dental _ϐ_ (cf. the development of *_w_ > _b_ in the majority of the daughter languages), but it would be significantly more difficult to interpret the appearance of the three reflexes (*_p̄_, *_b_, and *_w_) in PNC in the place of the one and only initial *_bh_ in PIE, given an assumption that borrowing was from PIE into PNC. The remaining correspondences (see below) in effect seem as well to support the conclusion that borrowing was into PIE.

1.2 Dental consonants (occlusives and sonorants).

In PNC four dental stops are reconstructed: voiceless (aspirated) *_t_, tense (unaspirated) *_t̄_, voiced *_d_ and ejective *_ṭ_, and three sonorants (*_n_, *_r_ and *_j_).

The correspondences between PNC and PIE are worked out as follows:

PNC	PIE	Examples
*t	*t	2.7 (*_qqwata_ : *_g^{w}et-_), 5.12 (*_ˀV-twVr-_ : *_tu̯er-_)
*t̄	*d-, *-t-	1.5 (*_t̄Vq̇V_ : *_dik-_), 3.17 (*_λwint̄V_ : *_lento-_), 4.4 (*_bVrVt̄V_ : *_pert(h)-_)
*d	*d	3.6 (*_qüIr-dV_ with suffixal *_-dV_, see above — PIE *_ĝherd-_)
*ṭ	?	(no examples)
*n	*n	2.1 (*_hāInq̱q̱V_ : *_(H)ang-_), 2.3 (*_ƛ̱wāhnɨ_ : *_Huələnā_), 2.6 (*_ḳwVnV_ : *_konə-mo-_), 2.8 (*_č̣č̣ănV_ : *_ĝ(h)enu-_), 2.11 (*_χ̱winḳwV_ : *_k^{w}enk^{w}e_), 3.15 (*_nə̄Hə̄c̣c̣wV_ : *_nedo-_), 3.17 (*_λwint̄V_ : *_lento-_), 3.18 (*_λ̱wĭnˀɨ_ : *_lĭ̄no-_), 4.2 (*_ˁŏnc̣c̣V_ : *_(H)anətā_), 4.5 (*_nićV_ : *_n̥si-_)
*r	*r	1.7 (*_wāIrƛ̣ƛ̣w_ : *_pork̂o-_), 2.10 (*_pwərccV_ : *_pērs-nā_), 2.16 (*_kɨ̆r(w)V_ : *_kēr-_), 2.17 (*_ˀərəc̄wV_ : *_orso-_), 3.4 (*_kkärmuśV_ : *_kermus-_), 3.6 (*_qǖIrV_ : *_ĝherd-_), 3.8 (*_χ̱wɨ̄rk(w)V_ : *_k^{w}erk^{w}o-_), 3.12 (*_wēIrqwɨ_ : *_bherəĝ-_), 3.14 (*_bVrč̣-_ : *_bhar(e)s-_), 3.16 (*_rəƛ̱ƛ̱V_ : *_rughi̯o-_), 4.3 (*_HaʒʒārV_ : *_(H)edhro-_), 4.4 (*_bVrVt̄V_ : *_pert(h)-_), 4.9

PNC	PIE	Examples
		(_*ḳwărV_ : _*kʷer-_), 4.10 (_*χ̱IwĕrV_ : _*gʷerən-_), 4.15 (PWC _*gʷərə_ : _*gʷeru-_), 5.1 (_*ʔār(H)V_ : _*ārHo-_), 5.2 (_*ʕüç̣ç̣ürV_ : _*(H)aĝro-_), 5.4 (_*mŏrqqwV_ : _*mar(o)ĝ-_), 5.5 (_*ʔŏIrVc(w)e_ : _*(H)areĝ-_), 5.8 (_*ḳĕrḳĕlV_ : _*k̂orkā-_), 5.12 (_*ʔV-twVr-_ : _*tu̯er-_), 5.13 (PWC _*pərəγə_ : _*pr̥k-_), 5.15 (_*renχ̱wV_ : _*reugh-_), 5.16 (_*š:wĭrV_ : _*su̯er-_ / _*sūr-_)
*j	*i̯ / *Ø	1.1 (_*Hējʒú_ : _*(H)aiĝ-_), 2.13 (_*čwăjmi_ : _*saim-_), 3.21 (_*ʔăjʒăƛ̄V_ : _*(H)edhl-_), 5.6 (_*u̯VjcV_ : _*u̯es(-no-)_), 5.10 (_*ccōjwīƛ̄V_ : _*k̂i̯āu̯ero-_)

REMARKS

1. The reflex of _*ƛ̄_ in PIE is reminiscent of the reflexes in several of the present-day Dagestanian languages of the Archi type, where _*ƛ̄_ is reflected as voiced _d-_ initially, but as _-ƛ̄-_ medially.

2. The sonorant _*n_ in medial combinations sometimes drops out in PIE. This occurs:

a) before apical affricants, cf. examples 1.2 (_*ħīnčwV_ : _*ek̂u̯o-_), 3.10 (_*pinç̣ç̣wV_ : _*pĭ̄tu-_). The preservation of _*n_ in example 4.2 (_*ʕonç̣ç̣V_ : _*(H)anətā_) is explained, apparently, by an early epenthetic vowel between _n_ and _ç̣ç̣_ in the source language (cf. for the three words observed here, for example, the following Avar words: _č_ (< _*ʔiču_) 'horse', _piç̣_ 'resin', but _nuç̣a_ 'door', where the very same development is observed as that in PIE.) In this way, this peculiarity of the PIE reflexes, most likely, is explained by the particularities of the phonological system of the PNC dialect that served as the source of the borrowings;

b) in those cases when in PIE a metathesis of labialization took place (see above, under 1.1. Labial consonants, 3.a.), cf. examples 3.11 (_*bĭInḳḳwV_ : _*peuk̂-_), 3.13 (_*p̄ŏInqqwe_ : _*bhā(u)ĝo-_), 5.15 (_*renχ̱wV_ : _*reugh-_). The preservation of _-n-_ in these cases would have led to the formation of phonetic structures inadmissible for PIE, combining two sonants in a non-syllabic function within a single syllable (_*peunk̂-_, _*bhaunĝo-_ and _*reungh-_). In that way this development, seemingly, took place already on Indo-European soil.

3. The sonant _*j_ is a fairly rare phoneme in PNC; for this reason we do not have any examples of its reflexes in the initial and intervocalic positions in PIE. In medial consonant combinations _*j_ is reconstructed only in a very limited number of cases, namely when in the root there are sibilants or palatal affricates, producing the PN reflex _*st_ (the development of *C, *Ć > PN _*st_ seemingly is complicated merely by its presence in a syllable that contains an affricate of the sonorant _*j_). Judging by the available examples, PIE reflects this _*j_ as _*i_ when followed by _*a_ (cf. examples 1.1, 2.13, 5.10), but it has a zero reflex after _*e_ (cf. examples 3, 21, 5.6, 5.10). In several cases PIE has diphthongs with _*i_ (or syllabic _*i_, possibly, this being a step in the reduction of original _*ei/*oi_), whereas in the PNC reconstruction there is an absence of the _*j_, cf. examples 2.4 (_*kwVśV_ : _*kais-_), 3.20 (_*ʔăǯwV_ : _*(H)aiĝ-_), 5.7 (_*maśwV_ : _*miz-dho-_ < _*meis-dho-_). It is very likely that in these cases PNC had _-j-_, but the phonetic structure of these roots is such that with the presently available correspondences we simply are unable to reconstruct it.

4. PNC _*r_ in the absolute majority of cases (whether in an independent position or in combinations) is reflected in PIE as _*r_; see the many examples above. The unitary

exception is the position before sibilant affricates (> PIE palatal velars, see below), where in the two cases known to us _*r_ is lost, cf. examples 1.11 (_*c̣V̆rʒV_ : _*k̂ek̂-_), 2.15 (_*ʒwilerʒwV_ : _*s/p/elĝh-en_). A similar development is characteristic for many North Caucasian languages, and it is possible to think that it is conditioned by the particularity of the dialect of PNC that had served as the source of the borrowings.

As we see, the correspondences between PNC and PIE in the area of dental consonants also support the thesis of the direction of the borrowing being from PNC (or a dialect of PNC) into PIE.

In the opposite case we would be obliged to consider that 1) both PNC _*t_ and _*t̄_ can correspond to one and the same PIE medial _*t_; 2) notwithstanding the absence in PIE of a sonant in medial combinations, in borrowed lexemes in PNC the parasitical sonants _-n-_ and _-r -_, though having no Indo-European source, can appear.

1.3. Velar consonants.

The velar series from the point of view of the PNC phonological system was affricate. The general pecularity of all the PNC affricate series consisted of the fact that they incorporated within themselves besides plosive consonants spirants as well. In addition, each of the plosive consonants had a geminate correlate (from the phonological point of view similar geminates can be regarded either as combinations of two identical affricates or as combinations of affricate plus harmonic spirant).

For PNC four plosive velars (_*k_, _*k̄_, _*ḳ_, _*g_) and three velar spirants (_*x_, _*x̱_, _*ɣ_) are reconstructed. The reflexes of the PNC velar spirants in PIE are unknown (there are no examples). For the remaining velars the correspondences are worked out as follows:

PNC	PIE	Examples
*k	*k / *k^w	2.4 (_*kwVśV_ : _*kais-_), 2.9 (_*c̣c̣ākwV_ : _*tu̯ak-_), 2.16 (_*kɨ̆r(w)V_ : _*kēr-_), 3.3 (_*c̣wēkV_ : _*k̂ēko-_), 3.8 (_*x̱wīrk(w)V_ : _*k^{w}erk^{w}o-_), 4.14 (_*həlkwV_ : _*H^{w}erk-_)
*k̄	*ĝ(h) / *g(h)	3.5 (_*k̄ălVk̄V_ : _*ĝholg(h)-_)
*g	*ĝ / *g^w	3.1 (_*HVbVgV_ : _*(H)au̯iĝ-_), 4.1 (PWC _*ǵ^{w}aš^{w}V_ : _*ag^w(e)sī_), 4.15 (PWC _*g^{w}ərə_ : _*g^{w}eru-_)
*ḳ	*k / *ḳ / *k^w	2.6 (_*ḳwVnV_ : _*konə-mo-_), 2.11 (_*x̱winḳwV_ : _*k^{w}enk^{w}e_), 4.8 (_*ḳuɫe_ : _*klāu̯-_), 4.9 (_*ḳwărV_ : _*k^{w}er-_), 5.8 (_*ḳĕrḳĕlV_ : _*k̂orkā-lā_)
*kk	*k/*k̂	3.4 (_*kkärmuśV_ : _*kermus/*k̂-_)
*k̄k̄	?	(no examples; cf., though, 3.5 _*k̄alVk̄V_ : _*ĝholg(h)-_, where in PEC also possible is the reconstructed form _*k̄k̄_)
*gg	*gh	2.12 (_*p̄üggV_ : _*bhāĝhu-_)
*ḳḳ	*k̂	3.11 (_*bĭInḳḳwV_ : _*peuk̂-_)

REMARKS

1. The distribution of voiced and voiced aspirate correspondences for PNC _*k̄_ and _*g_ is not totally hopeful: in the first examples, where PNC _*g_ is presented, in actual fact the reconstruction _*k̄_ is also possible (the reflexes of _*k̄_ and _*g_ are opposed best of all in the

Lak and Dargi languages, the data of which for the roots discussed above are not available).

2. Besides example 2.12, the PNC geminate _*gg_ is represented, apparently, also in example 5.13 (PWC _*pərəγə_ : _*pr̥k-_), where PWC _*γ_ goes back to to PNC _*gg_. In PIE we have here voiceless _*k_ in place of the expected _*gh_ as a result of the particular Indo-European rule of the inadmissibility in a root of a voiced or voiced aspirate consonant, so that _*pr̥k-_ < _*pr̥gh-_ (cf. 1.1, remark 1).

3. On the possibility of the presence in PIE of a labiovelar in the position in PNC of the combination "velar + _w_" see above, 1.1., remark 3, a). As for Indo-European palatals, they seemingly correspond to PNC velars if the latter were located before a front vowel plus PNC _*a_ (cf. examples 3.5, 5.8); oppositely, before a back vowel PNC velars are reflected in PIE as non-palatalized (cf. examples 2.17, 4.8). Palatalization is absent as well in the presence in PNC of the glide _*w_ (cf. the examples above). With the velar consonants, the falling together in PIE of the reflexes of voiceless (aspirate) and ejective velars in a single voiceless _*k_ provides evidence of the direction of borrowing, from PNC into PIE (in the opposite case the motivationless appearance of two series of consonants in PNC in the position of one in PIE would be incomprehensible.)

1.4. Uvular consonants.

In PNC four uvular affricates (_*q_, _*q̱_, _*G_, _*q̇_), with geminate correlates, and three uvular spirants (_*χ_, _*χ̱_, _*ʁ_) are reconstructed. All the uvular consonants are reflected in PIE as velars, with the following correspondences:

PNC	PIE	Examples
*q	*g/*ĝ	3.2 (_*ʔĕqV_ : _*(H)āg-_), 3.12 (_*wēIrqwɨ_ : _*bherəĝ-_)
*q	?	(no examples)
*G	?	(no examples)
*q̇	*k	1.3 (_*q̇ŏIcV_ : _*kaĝo-_), 1.4 (_*q̇VlV_ : _*kol-_), 1.5 (_*ƚVq̇V_ : _*dik-_), 2.5 (_*q̇ămq̇ə_ : _*kenk-_)
*qq	*g(h) / *ĝ / *g^{w}	2.7 (_*qqwata_ : _*g^{w}et-_), 3.13 (_*p̄ŏInqqwe_ : _*bhā(u)ĝo-_), 5.4 (_*mŏrqqwV_ : _*mar(o)ĝ-_), 5.17 (_*łimqqIV_ : _*lengh-_)
*qq	*g(h)	2.1 (_*hāInq̱q̱V_ : _*(H)ang-_), 3.7 (_*q̱q̱ĕlĕq̱q̱e_ : _*glōgh-_); an exception is 3.23 (_*ʔəImq̱q̱wV_ : _*(H)enk^{w}-_)
*GG	*g(^{w})	1.9 (_*GG(w)V̄IṗV_ : _*g^{w}ēb(h)-_)
*q̇q̇	*k/*k^{w}	5.9 (_*q̇q̇wīIq̇q̇a_ : _*keuk-_), 5.11 (_*čVIq̇q̇wV_ : _*k̂ek^{w}-_)
*χ	*k̂	4.6 (_*χamV_ : _*k̂om-_)
*χ̱	*gh/*g^{w}(h)	4.10 (_*χ̱IwĕrV_ : _*g^{w}erən-_), 5.15 (_*renχ̱wV_ : _*reugh-_)
*ʁ	?	(no examples)

REMARKS

1. The uvulars are reflected in total in PIE as are the velars as well, with the notable exception that voiceless aspirates give in PIE voiced reflexes (as also do their geminal correlates). We note that the voiced affricates in examples 3.6 (PIE _*ĝherd-_) and 3.7 (PIE _*glŏ̆gh-_) might be secondary as a result of the action of the particular Indo-European rule of the inadmissibility in a root of two voiced non-affricates.

2. The tense spirant _*χ̱_ is reflected in PIE as _*g(^{w})_ or _*gh(^{w})_ (the distinction between these two reflexes is so far unclear). In two cases the we observe the reflection of _*χ̱_ as _*k(^{w})_, cf. examples 2.11 (_*χ̱winḳwV_ : _*k^{w}enk^{w}e_ > _*penk^{w}e_) and 3.8 (_*χ̱wīrk(w)V_ : _*k^{w}erk^{w}o-_ > _*perk^{w}o-_). In these cases clearly there should have been present the reflex _*gh^{w}_, but devoicing occurred as a result of the action of the internal Indo-European rule of the inadmissibility of the combining in a root a voiced affricate and a voiceless consonant (for other cases of the action of this rule see 1.1, remark 1).

3. As for the reflexes in PIE of the uvular consonants, just as with the velars, simple or palatalized velars may appear. However, the positional distribution here is not so clear and requires additional research.

The very fact of the reflexes of PNC uvulars as PIE velars testifies, one would think, to the direction of borrowing being from PNC into PIE: in the opposite case things would be completely unclear, as one and the same Indo-European velar series would be reflected in North Caucasian sometimes as a velar series and sometimes as a uvular series (as we shall see below, other North Caucasian consonants as well may correspond to the Indo-European velars).

1.5. Lateral consonants.

In PNC four lateral affricates (_*ƛ_, _*ƛ̱_, _*Ł_, _*ƛ̣_), with geminate correlates, two spirants (_*λ_, _*λ̱_), and two sonorants (_*l_, _*ł_) are reconstructed. The phonetic distinction between the latter two consonants is not fully clear (PNC _*ł_ in the daughter languages gives a single-form reflex, _l_, whereas _*l_ is reflected as _l_ or _r_). The correspondences between PNC and PIE are fixed as follows:

PNC	PIE	Examples
*ƛ	?	(no examples)
*ƛ̱	*l	2.3 (_*ƛ̱wālɦnɨ_ : _*Huələnā_)
*Ł	?	(no examples)
*ƛ̣	*k̂ / *k^{w}	1.6 (_*p̄äHäƛ̣wV_ : _*pek̂u-_), 2.2 (_*läHäƛ̣wV_ : _*li̯ek^{w}-_)
*ƛƛ	?	(no examples)
*ƛ̱ƛ̱	*gh	3.16 (_*rəƛ̱ƛ̱V_ : _*rugh-i̯o-_)
*ŁŁ	?	(no examples)
*ƛ̣ƛ̣	*k̂	1.7 (_*wālrƛ̣ƛ̣wə_ : _*pork̂o-_)
*λ	*l	3.17 (_*λwinƚV_ : _*lento-_)
*λ̱	*l	3.18 (_*λ̱wĭnʔɨ_ : _*lī̆no-_)
*l	*l/*r	1.4 (_*q̇VlV_ : _*kol(i)-_), 2.2 (_*läHäƛ̣wV_ : _*li̯er^{w}-_), 2.15 (_*ʒwilerʒwV_ : _*s/p/elĝhen-_), 3.7 (_*q̱q̱ĕlĕq̱q̱e_ : _*glŏ̆gh-_), 4.7 (_*ç̣əwlɨ_ : _*k̂ūl-_), 4.14 (_*həlkwV̄_ : _*Hu̯erk-_), 5.3 (_*ʒʒəlHV_ : _*dholo-_), 1.8 (_*ʔɨlç̣wɨlV_ : _*ster-_), 5.10 (_*ccōjwɨlħV_ : _*k̂i̯āu̯ero-_)
*ł	*l	3.9 (_*pwīlłV_ : _pel-_), 3.21 (_*ʔăjʒăłħV_ : _*(H)edhl-_),

PNC	PIE	Examples
		4.8 (_*ḳułe_ : _*klāu̯-_), 4.12 (_*č̣ɨwłu_ : _*k̑seul-_), 4.13 (_*čalłe_ : _*sel-_), 5.17 (_*łimqqIV_ : _*lengh-_)

REMARKS

1. The reflexes of the PNC laterals in PIE as velars are fully comprehensible from the articulatory aspect if the peculiarities of articulation of the laterals in PNC are taken into account: phonetically these were, apparently, lateralized velars, which led to a development from laterals to velars in many daughter languages. Several lateral affricates, however, are reflected in PIE as _*l_; in all the cases known to us PIE has _*l_ in place of PNC lateral spirants.

2. PNC _*ł_ always is reflected in PIE as _*l_; as for PNC _*l_, it may give either _*l_ or _*r_. The distribution between these two reflexes is the following:

a) PNC _*l_ is reflected as _*r_ in medial consonant clusters (cf. example 4.14);

b) at the end of a root _*l_ can be reflected as _*r_ or _*l_, apparently depending upon the preceding vowel. Cf. examples 1.8 (PIE _*ster-_), 5.10 (PIE _*k̑i̯āu̯ero-_), where before _*r_ stands _*e_, in contrast to examples 1.4 (PIE _*kol(i)-_), 4.7 (PIE _*k̑ūl-_), 5.3 (PIE _*dholo-_);

c) in all the remaining cases _*l_ is reflected as _*l_, cf. examples 2.2, 2.15, 3.55, 3.7.

We note here also that the hypothesized borrowing from PNC would not explain the reason for the reflection of Indo-European velars but Caucasian laterals (given the presence in PNC of a particular velar series).

The development of _*l_ > _*r_ (in the positions indicated above), apparently, was peculiar to the particular dialect of PNC which served as the source of the borrowings, such that explaining it on Indo-European soil itself is not possible; we emphasize once again that the transition of _*l_ > _*r_ is characteristic for the history of many present-day North Caucasian languages (and in particular for the West Dagestanian).

1.6. Sibilant lamino-alveolar consonants.

For PIE, as is known, one lamino-alveolar consonant is reconstructed — _*s_ (with a voiced variant _*z_ before voiced consonants). In contrast, for PNC four lamino-alveolar affricates are reconstructed (_*c_, _*c̄_, _*ʒ_, _*c̣_), together with geminated correlates, and three lamino-alveolar spirants (_*s_, _*s̄_, _*z_).

Any correlation in PIE to the rare PNC _*z_ (as also to the other voiced spirants), as well as to PNC _*s̄_ is unknown. The lamino-alveolar sibilant spirant _*s_ is reflected in PIE as _*s_ in example 3.16 (_*sūsV_ : _*sasi̯o-_). The lamino-alveolar affricates also are occasionally reflected in PIE as _*s_, cf. examples 5.6 (_*u̯VjcV_ : _*u̯es(no-)_; here, however, only a Kartvelian borrowing points to the affricate: see above; relying on North Caucasian data proper the reconstruction _*s̄_ is also possible): 2.10 (_*pwərccV_ : _*pērs-nā_); in two cases PNC tense _*c̄_ is reflected as _*s_, cf. examples 2.13 (_*c̄wǟjmi_ : _*saim-_), 2.17 (_*ʔərəc̄wV_ : _*orso-_). However, in the overwhelming majority of cases PIE reflects the PNC lamino-alveolar sibilants as palatals (the only local series whose PIE articulation could approximate the affricate, as is visible from the reflexes in the "Satem" languages), or as dental stops. Cf. the correspondences:

PNC	PIE	Examples

*c	*ĝ	1.3 (*q̇ŏlcV : *kaĝo-), 5.5 (*ʔŏlrVc(w)e : *(H)areĝ-)
*ʒ	a) *ĝh	1.11 (*c̣V̆rʒV : *k̂ek̂- / *ĝeĝh-), 2.15 (*ʒwilerʒwV : *s/p/elĝh-)
	b) *dh	3.21 (*ʔăjʒałħV : *(H)edhl-)
*c̣	*k̂	1.11 (*c̣V̆rʒV : *k̂ek̂- / *ĝeĝh-), 3.3 (*c̣wēKV : *k̂ēko-)
*cc	*k̂	5.10 (*ccōjwɨlħV : *k̂i̯au̯ero-)
*c̄c̄	?	(no examples)
*ʒʒ	*dh	4.3 (*HaʒʒārV : *(H)edhro-), 5.3 (*ʒʒəlHV : *dholo-), 5.14 (*hwĭmiʒʒu : *medhu-)
*c̣c̣	*t/*d	2.9 (*c̣c̣ākwV : *tu̯ak-), 3.10 (*pinc̣c̣wV : *pĭtu-), 4.2 (*ʕonc̣c̣V : *(H)anətā), 3.15 (*nāHāc̣c̣wV : *nedo-)

REMARKS

1. From the table it can be seen that the PNC lamino-alveolar geminates usually transfer to Indo-European as dental stops, whereas the PNC non-geminate lamino-alveolar sibilants transfer as palatals (although there are exceptions to this rule, cf. the transfer of *cc* as **k̂*, and also the double transfer of **ʒ* as **ĝh* or as **dh*)[23].

2. PNC **c̣V̆rʒV* 'weasel' should have corresponded to PIE **k̂eĝh-*; the combination of voiceless and voiced aspirate consonants in one root, however, was inadmissible, and the variants **k̂ek̂-/*ĝeĝh-* are explained by the tendency to eliminate this combination.

3. Absolutely unique is the reflex of the initial combination**ʒw-* in example 2.15 (PIE **s/p/elĝh-en-* 'spleen'). We note that this root gives irregular reflexes in the Indo-European languages; not to be ruled out is that a special initial combination of the type **sb-* should be established in it (cf. the Baltic reflex with voiced *b-*), having arisen as a result of an attempt to transfer PNC **ʒw-*.

1.7. Sibilant palato-alveolar consonants.

In PNC four palato-alveolar affricates (**č, *č̄, *ǯ, *č̣*), with geminate correlates, and three palato-alveolar spirants (**š, *š:, *ž*) are reconstructed. Also often cited as a reflex of the palato-alveolar sibilants is PIE **s*: cf. for the spirants examples 4.1 (PWC **ǵ^{w}aš^{w}V* : PIE **ag^w(e)sī*; in this root, however, an affricate also could have been the original, see below), and 5.16 (**š:wĭrV* : **su̯er-/*sūr-*). For the affricates cf. 4.13 (**čałłe* : **sel-*), 3.14 (**bVrč̣nV* : **bhar(e)s-*). In one case (4.12, **č̣iwłu* : **k̂seul-*) the specific reflex **č̣* in the form of PIE **k̂s-* is observed — obviously, an attempt to transfer the double-focus articulation of the PNC palato-alveolar consonant. In the majority of the cases, however, the palato-alveolar affricates are transferred into PIE as palatalized velars (that is, similar to the sibilant spirants). Cf.:

---

[23] Interesting here is the presence in PIE, side-by-side with **pĭtu-* (= PNC **pinc̣c̣wV*), of the root **pik̂*, reflected in Greek πίσσα, Lat. *pix* 'resin, pitch', *picea* 'pine', *pīnus* (**pik-sno-*) 'pine, fir, silver fir'; possible also is Alb. *pišë* (**pik̂-si̯ā*) 'fir, spruce, resinous tree' (the Latin forms are in the final analysis the source of the Slavic, Baltic and Germanic names for resin [WP: II, 75; Vasmer: III, 226 with references]). Not to be ruled out is the possibility that we have before us as well a case of a double transfer of the PNC sibilant **c̣c̣*, which has led to the formation of an etymological doublet in PIE.

PNC	PIE	Examples
*č	*k̂	1.2 (_*ħīnčwV_ : _*ek̂u̯o-_), 5.11 (_*čVIq̇q̇wV_ : _*k̂ekʷ-_)
*č̄	?	(no examples)
*č̣	*k̂s	4.12 (_*č̣ɨwłu_ : _*k̂seul-_)
*ǯ	*ĝ	3.20 (_*ʔăǯwV_ : _*(H)aiĝ-_)
*čč	?	(no examples)
*č̄č̄	?	(no examples)
*č̣č̣	*ĝ	2.8 (_*č̣č̣ănV_ : _*ĝ(h)enu-_)
*ǯǯ	?	(no examples)

REMARKS

n example 2.8 (PNC _*č̣(č̣)ănV_ — PIE _*ĝ(h)enu-_) PNC _*č̣č̣)ănV_ can be reconstructed as _*č̣_ or as _*č̣č̣_ (decisive data for the Avaro-Andi languages are missing). Judging by the Indo-European reflex, however, _*č̣č̣_ is to be preferred (cf. below on the analogous reflex of geminated _*ć̣ć̣_).

2. Let us note that even given this general similarity the North Caucasian palato-alveolar sibilants are nevertheless reflected in PIE not entirely as one would expect palato-alveolar sibilants to behave: cf. the voiceless reflex _*č_ > _*k̂_ as against voiced _*ǯ_ > _*ĝ_; and the special development _*č̣_ > _*k̂s_ (as against _*c̣_ > _*k̂_). It is also characteristic that we have not come upon a single case of a reflex of PNC sibilants involving dental stops (see above).

1.8. Apico-alveolar sibilant consonants.

In PNC yet a third series of apical affricates is reconstructed, of which their common peculiarity is that in the Dargi and Nakh languages they yield lamino-alveolar reflexes whereas in the remaining East Caucasian languages they yield palato-alveolar reflexes (in West Caucasian some of the affricates of this third series yield lamino-alveolar while some yield palato-alveolar reflexes). Also reconstructed is a third series of apical spirants displaying a vacillation between lamino-alveolar and palato-alveolar language by language. To these phonemes we conditionally assign the characteristic of palatalization (although in actual fact this could well be some other characteristic making for an intermediate position of this series between lamino-alveolars and palato-alveolars). As in the other affricate series, four apico-alveolar affricates are reconstructed (_*ć_, _*ć̱_, _*ʒ́_, _*ć̣̱_), with geminate correlates, and three apico-alveolar spirants (_*ś_, _*ś:_, _*ź_).

The apico-alveolar spirants (except _*ź_, (for the reflexes of which there are no examples) regularly give _*s_ in PIE, cf. examples 2.4 (_*kwVśV_ : _*kais-_), 3.4 (_*kkärmuśV_ : _*kermus_), 5.7 (_*maśwV_ : _*miz-dho_ /< _*mis-_/), 1.10 (_*p̄Vś:wV_ : _*p(e)is-k-_).

For the remaining apico-alveolars the following reflexes are attested:

PNC	PIE	Examples

*ć	*s	3.22 (_*ʕälmćə_ : _*amas-l-_), 4.5 (_*nićV_ : _*n̥si_)
*ć̱	?	(no examples)
*ʒ́	*ĝ	1.1 (_*Hējʒ́u_ : _*(H)aiĝ-_)
*ć̣	*k̂	4.7 (_*ć̣əwlɨ_ : _*k̂ūl-_)
*ćć, *ć̱ć̱, *ʒ́ʒ́	?	(for all these geminates there are no examples)
*ć̣ć̣	*ĝ	5.2 (_*ʕüć̣ć̣ürV_ : _*(H)aĝro-_)

Although there are not very many examples, it is nevertheless apparent that the PNC apico-alveolar consonants are reflected in PIE in the same manner as the palato-alveolar consonants (see above). An exception is the development of _*ć̣_ > _*k̂_ (in contrast specifically to the transfer of _*č̣_ > _*k̂s_), as well as two cases where in place of PNC apico-alveolar affricates PIE has the combination _*st_ (cf. examples 1.8 (_*ʡɨ̄lć̣wɨlV_ : _*ster-_, 2.14 (_*ʒ́wĕmV_ : _*stomen-_). Even so, these cases enable us to presume that in the PNC dialect which served as the source for the borrowings the apico-alveolar and the palato-alveolar series were distinct from each other.

1.9. Laryngeal consonants.

For PIE only one laryngeal consonant is solidly reconstructed — _*H_, reflected as _ḫ_ in Hittic and giving a null reflex in the remaing Indo-European languages. By contrast, for PNC an entire series of laryngeals is reconstructed, consisting of two simple (_*ʔ_, _*h_) and three emphatic (_*ʡ_, _*ħ_, _*ʕ_) laryngeals (the emphatic laryngeals are also often called pharyngeals).

In view of the peculiarities of the reflexes of the laryngeals in the Indo-European languages material for the verification of the correspondences between PNC and PIE is limited to the roots whose reflexes are represented in Anatolian. Roots with medial and final laryngeals in this case was not found (in the sole case where Hittic shows a medial laryngeal — 5.1, PNC _*ʔār(H)V_ — PIE _*ārHo-_, Hitt. _arḫa-_ — the available North Caucasian material, unfortunately, not only does not enable us to determine the quality of the PNC laryngeal, but not even to settle the question of whether it existed in that position in general). As for the final position, the following correspondences are revealed:

PNC	PIE	Examples
*ʔ	*Ø	2.17 (_*ʔərəc̄wV_ : _*orso-_), 5.1 (_*ʔār(H)V_ : _*ārHo-_)
*h	*H	2.3 (_*ƛ̱wāhnɨ_ : _*Huələnā_; here for PNC it is necessary to presume a secondary metathesis of _*H_ from medial to initial), 4.14 (_*həlkwV_ : _*Hu̯erk-_)
*ʡ	?	(no examples)
*ħ, *ʕ	Ø	1.2 (_*ħɨ̄nčwV_ : _ek̂u̯o-_), 3.22 (_*ʕälmćə_ : _*amas-l-_)

REMARKS

1. The rule of the correspondence of PNC *ʔ : PIE *Ø seemingly contradicts example 5.5 (*ʔoIrVc(w)e : *(H)areĝ-). However, as we remarked above, it is not ruled out that the PIE roots with the meaning 'light, radiant' and 'silver' drew together secondarily, as a result of folk etymology. In Anatolian this root is attested only with the meaning 'light, white', while the meaning 'silver' is absent. Therefore in actual fact the root *(H)areĝ- 'silver' in PIE could well not have had an initial laryngeal.

2. In two cases — 1.8 (*ʔɨ̄lḉwɨlV : *ster-) and 5.14 (*hwĭmĭʒʒu : *medhu-) — in PIE correspondence is absent for the entire syllable with an initial laryngeal. This phenomenon, probably, is conditioned by a reduction of the vowel of the first syllable in a tri-syllabic structure (we note that in both cases the vowel is weak, easily amenable to reduction; in cases where, given the same root structure, the initial vowel is strong PIE usually preserves it, cf. examples 2.17, 3.21, 4.3).

2. SYSTEM OF VOCALISM

The vowel system reconstructed for PNC is richer than the common Indo-European system. It consists of nine vowels (*i, *e, *ä, *ɨ, *ə, *a, *u, *o, *ü), each of which can be long or short (the opposition according to length has been preserved best of all in the Nakh languages, but it is obliquely reflected in the other East Caucasian languages as well)[24]. Moreover, also reconstructed are pharyngealized vowels (although the latter may in the final analysis go back to constructions of the type 'vowel + laryngeal'). Apparently, in PNC there existed as well vocalic ablaut, but as of now a system of vowel gradation has not been reconstructed (for which reason reconstruction of the verbal vocalism has been greatly impeded).

The Indo-European vowel system clearly represents the result of an extended period of earlier development (it underwent very substantial changes, judging from a comparison with the original Nostratic system of vocalism, on which see OCNYa). In part, vowel ablaut alternations were imposed onto the old vocalic system, which in many cases greatly complicate reconstruction of the original vocal characteristic of a root.

As a result of all that has been shown above the restoration of correspondences between PNC and PIE is made extraordinarily difficult. Nonetheless it is still possible to establish definitive regularities.

2.1. Initial (Anlaut) vocalism.

First of all we must note that efforts to discover correspondences in PIE to such PNC characteristics of vocalism as pharygelization and length-shortness have been unsuccessful. The pharyngealized vowels seemingly are reflected exactly the same as the corresponding non- pharyngealized vowels. Long PNC vowels can be reflected in PIE as long or as short, and the other way round — short vowels also may give either type of reflex. In connection with this it is not out of place to recall that length in PIE, according to several hypotheses, appears to be a relatively late phenomenon. It is possible, therefore, that in the period of PNC-PIE contacts long vowels did not yet exist, that they arose later, already completely independently of the length/shortness of the vowels in the corresponding PNC roots. Also possible, however, is a different explanation for the situation we observe, if one presupposes that the opposition of the vowels in PNC, which we interpret as an opposition according to length-shortness, had some other sort of phonetic essence (for example, this could be an opposition of types of phonation); in such case the absence of a reflection of this opposition in PIE would be natural.

---

[24] The system of vocalism completely disintegrated in PWC, where it was reduced to a total of two vowels (*a and *ə); there are, however, many arguments that namely the East Caucasian system is the original one, but that in PWC it underwent a modification on account of a transfer of the timbre oppositions of the vowels onto the neighboring consonants (as a result of which there arose an extraordinarily complex system of consonants with overlying, one upon the other, correlations in accordance with labialization and palatalization).

As for the correspondences of qualitative characteristics of the vowels, they appear in the following form:

	PIE	Examples
*i	*i	3.10, 3.18
	*e	2.11, 2.15, 3.9, 3.11, 5.14, 5.16, 5.17
*e	*e	3.3, 3.12, 4.10, 5.15
	*a	1.1 (5.5)
*ä	*a	2.13, 3.22
	*e	1.6, 2.2, 3.4
*ɨ	*e	1.2, 1.8, 2.16, 3.8, 4.12
*u	*u	3.4
*o	*a	1.3, 3.13, 4.2, 5.4
*ü	*a	2.12, 5.2
*a	*a	2.1, 3.20, 4.11, 5.1
	*e/*o	1.7, 2.5, 2.8, 3.5, 3.21, 4.3, 4.6, 4.9, 4.13

REMARKS

1. Indo-European in general, as is known, avoided combinations of two sonants, one following the other, within a single root morpheme. A frequent incidence of this rule was the elimination of the high vowels _*i_ and _*u_ before a following sonant (from the phonological point of view, in PIE _*i_ and _*u_ within a syllable are functionally the sonants _*i̯_ and _*u̯_). This rule, apparently, explains the presence of _*e_ in the position of PNC _*i_ in the majority of the cases (cf. 2.12 _*penk_^{w}_e_, 2.15 _*s/p/elĝh-en-_, 3.9 _*pel-_, 3.11 _*peuk̂-_, 5.16 _*s_^{w}_er-_ , 5.17 _*lengh-_). It is possible that this same cause led to the restructuring of the root in example 4.8 (PIE _*klāu̯- / *klēu̯-_ vis-à-vis PNC _*ḳuƚe_). In those cases where after a high vowel there follows a 'noisy'[25] consonant, the quality of the vowel is preserved (cf. 3.10 _*pī̆tu-_, 3.4 _*kermus-_). Exceptions to the formulated rules are few: these are 3.18 _*lī̆no-_ (with _*i_ in place of the expected _*e_) and 5.14 _*medhu-_ (with _*e_ in place of the expected _*i_). An unclear case is in ex. 3.19 (_*sasi̯o-_ in place of the expected _*susi̯o-_).

---

[25] Russian шумный [Ed.].

2. In the table it is clear that the PNC vowels **e, *ä* and **a* are reflected in PIE identically: namely, they give:

a) **a* in initial position (that is, after a beginning laryngeal), cf. 1.1 (**(H)aiĝ-*), 2.1 (**(H)ang-*), 3.2 (**(H)āg-*), 3.20 (**(H)aiĝ-*), 3.22 (**amas-l-*), 5.1 (**ār(H)o-*), 5.5 (**(H)areĝ-*). An exception to this rule is the reflex **e* in two 'tri-syllabic' structures (3.21 PNC **ʔăjʒăłħV* : PIE **(H)edhl-*; 4.3 PNC **HaʒʒārV* : PIE **(H)edhro-*), which, apparently, is explained by a reduction of the vowel in this position (cf. above on vowel reduction leading all the way to the loss in this particular position of the high PNC vowels **ɨ, *i*).

b) **e* (sometimes with the ablaut variant **o*) in all of the remaining cases, cf. 1.6 (**pek̂u-*), 1.7 (**pork̂o-*), 2.2 (**li̯ek*^{w}-), 2.6 (**kenk-*), 2.8 (**ĝ(h)enu-*), 3.3 (**k̂ēko-*), 3.4 (**kermus-*), 4.7 (**k̂om-*), 4.11 (**k*^{w}*er-*), 4.12 (**g*^{w}*erən-*) , 4.15 (**sel-*), 5.8 (**k̂orkā(-lā-)*), 5.15 (**reugh-*). The exception: 2.13 (**saim-*).

3. The specific PNC vowel **ü* in two cases is reflected in PIE as **a*, cf. 2.12 (**bhāĝhu-*), 5.2 (**(H)aĝro-*) and in one case as having developed as **ü > e*, cf. 3.6 (**ĝherd-*). We note that the reconstruction of **ü* is based only on systemic considerations (in not one of the daughter languages is the reflex *ü* actually represented) and, possibly, is incorrect.

4. PIE **a* likewise regularly appears as the reflex of PNC **o*, cf. 1.3 (**kaĝo- ~ -o-*), 3.13 (**bhā(u)ĝo-*), 5.4 (**mar(o)ĝ-*), 6.10 (**k̂i̯āu̯ero-*).

5. The most varied correspondences are seen in PNC for PNC **ə*, namely: 1) PIE **a*, cf. 2.9 (**tu̯ak-*); 2) PIE **e*, cf. 3.15 (**nedo-*), 3.23 (**(H)enk*^{w}-); 3) PIE **u*, cf. 3.16 (**rughi̯o-*), 4.7 (**k̂ūl-*); 4) PIE **o*, cf. 5.3 (**dholo-*), 2.17 (**orso-*). It is obvious that PIE did not have an analog for the transfer of this vowel (PIE **ə* had a completely different phonetic character).

6. In a number of cases the Indo-European correspondences to PNC roots reveal a degree of reduction of the sonants; the qualitative oppositions of the vowels given this circumstance, naturally are neutralized. Such is the cases for 5.6 (**n̥si-*), 6.14 (**pr̥k-*); a degree of reduction may appear as well, naturally, in the reflexes of other roots in the capacity of an ablaut variant. Judging by everything, the degree of reduction of liquid nasals is a relatively late, peculiarly Indo-European development (just as was vowel length as well).

Similarly, the vowel system of the source language of the borrowings differed somewhat from the PNC system we have reconstructed. Thus it is possible that in it the vowels **e, *ä* and **a*, having been distinct in PNC, had fallen together, and that the vowel **o* had gone over to *a*; also that the hypothetical PNC **ü* had become some sort of *a*-form vowel. Also possible, however, are other interpretations of the situation we have here.

2.2. Final (Auslaut) vocalism.

So far it must be asserted that efforts to establish promising correspondences between PNC and PIE with regard to final vocalism have not been successful. This is explained in the first place by insufficiencies of reconstruction in both PNC as well as in PIE of final vocalism, which in their turn are conditioned by fully objective causes: for PNC there is an almost full reduction of final vowels in the majority of the contemporary languages, as a result of which the final vowels of the founding language must be reconstructed according to scattered, uncoordinated data from the Lak, Dargi and

Avaro-Andi languages, together with a taking into account of what is known about Proto-Lezgi oblique bases. In sum the final vowels yield to restoration, with greater or lesser promise, only for a relatively small number of noun bases for the verbs the situation is even worse). In Indo-European the final vowels underwent a sweeping morphologization: already on the PIE level the final vowels of noun bases are best regarded not as elements of the root but as morphological markers of a type of declension. As a result they are easily interchangeable, and to establish the original type of noun base (of the root) is frequently very difficult.

As far the correspondences between PNC and PIE, one can only point out that:

1) Usually corresponding to PNC bases in **ɨ* are PIE bases in **o/ā*, cf. 2.3 **Hu̯ələnā*, 3.12 **bherəĝo-/-ā*, 3.18 **līno-;*

2) PIE bases in **-u* correspond either to PNC bases in *-u* or *-o*, cf. 5.14 *medhu-*, or to PNC bases with a final glide *w*, cf. 1.6 *pek̂u-*, 3.12 *pǐtu-*. Let us note, however, that the reverse is not true: PNC *u*-bases can correspond as well to other types of Indo-European bases, cf. 1.1 **(H)aiĝ-*, 5.12 **k̂seul(o)-*.

CONCLUSION

As a result of an examination of lexical isoglosses connecting the Indo-European and North Caucasian languages we must draw several important conclusions:

1. There is a large number of lexemes common to the reconstructed PNC and PIE entities.

2. Although between the PNC and PIE systems sufficiently regular phonetic correspondences can be established, the character of the shared vocabulary does not eliminate doubts that the common character of these lexemes is not the result of an original kinship but rather the result of borrowings. Characteristic is the presence among the lexical coincidences of words that are names of domestic animals and plants, terms connected with the raising of animals and the cultivation of plants (in part, the large number of names of body parts of animals), the many names of objects of everyday use, products for feeding, and trade-and- exchange relations. All of this indicates the active nature of the contacts between the Proto-North Caucasians and the Proto-Indo-Europeans. At that time the presence among the PNC-PIE isoglosses of a sufficiently large number of names of wild plants and vegetation as well as of terms for fauna such as 'frog', 'fish', and 'weasel' leads to the notion that we have before us evidence not simply of cultural contacts but of substrate relations.

3. A careful analysis of the phonetic correspondences enables us to come to the conclusion that the borrowing was done by the Proto-Indo-European side. Very many contrasts reconstructed for PNC are neutralized in the corresponding PIE lexemes, as is natural, in that PIE commanded a significantly poorer phonological system than PNC. In the case of a reverse direction of borrowings we would expect the formation within the PNC phonological system of a special, poorer subsystem typical for Indo-European borrowings (as this is observed, for example, in contemporary Caucasian languages when borrowing from Russian, or in the Korean, Japanese and Vietnamese languages when borrowing from Chinese). But here, to the contrary, it is clear that PIE assimilated PNC words into its system in the very most natural way — by means of the neutralization of phonological oppositions alien to it.

4. Analysis of the vocabulary provides grounds for several other important conclusions as well. In the first place, the contacts must have taken place prior to the disintegration of the common Indo-Europen unity. This is probable for the following reasons:

a) among the roots which were examined there is a sufficiently large number of them that have reflexes in Anatolian (and judging by everything we know, Proto-Anatolian broke away earliest of all from the remaining Indo-European dialects);

b) several phonological rules characteristic for PIE, apparently, were not yet in effect in the contacts we have examined. This relates first of all to the interdiction against combining within a single root morpheme voiced and voiceless aspirates, as well as of two voiced consonants. In addition, it is possible that in the period of the PNC-PIE ties there did not yet exist oppositions of length (which, by the way, by all appearances, are not reflected in Anatolian either — as the latest research shows [Ivanov 1982], Hittite *scriptiones plenae* reflect oppositions not of length but of accent.)

In the second place, the PNC dialect from which the borrowings were assimilated into PIE apparently already differed somewhat from the original common North Caucasian language. Analysis of the PNC-PIE isoglosses enables us to presuppose that in the source-language of the borrowings:

a) possibly the transition of **w- > *b-* had taken place (characteristic for a number of later systems);

b) in a number of cases there had taken place the loss of the sonorants **r* and **n* in medial (Inlaut) consonant combinations;

c) the transition **l* > **r* had taken place (at least at the beginning of initial consonant clusters, but also in a number of cases in the intervocalic position); possibly, the vowel system was transformed (the falling together of the vowels **e*, **ä*, **a* and the change of **o* > **a* took place).

The presupposition that the PIE linguistic unity was superimposed on a certain dialect of the PNC language would allow us to explain why in the original PNC system there is an absence of Indo-Europeanisms (in a case of balanced PNC-PIE contacts the presence of borrowings more or less equally on either side would be expected, in that there are no foundations for attributing to the Proto-North Caucasians a higher cultural level that to the Proto-Indo-Europeans).

5. Proceeding from all that has been said above, and also from what we know about the time of the disintegration of the PNC and PIE linguistic unities (for PIE, the period of about the fifth to fourth millennia BCE; for PNC, the boundary between the the sixth and fifth millennia BCE), we can date the contacts between PNC and PIE to the beginning of the fifth millennium BCE, that is, to the epoch of a fully developed Neolithic in Western Asia (with which the presence of many characteristically Neolithic terms among the lexemes examined above also is in agreement). Of course, this dating is still approximate, and in order to make it more precise, as well as to propose a geographical localization of the PNC-PIE contacts, a great deal of work still will be required. In whatever case, we hope that the elaboration of the problems here will make a contribution to the overall task of the reconstruction of the linguistic and ethnic situation of the Neolithic of Western Asia and Europe.

REFERENCES

Abaev, V.I. 1958-1979. *Istoriko-ètimologičeskij slovar' osetinskogo jazyka.* Vol. 1, Moscow-Leningrad, 1958; vol. 2, Leningrad, 1973; vol. 3, Leningrad, 1979.

Abdokov, A. I. 1973. *Fonetičeskie i leksičeskie paralleli abxazsko-adygskix jazykov*. Nal'čik.

_____. 1976. *K voprosu o genetičeskom rodstve naxsko-dagestanskix jazykov*. Nal'čik.

_____. 1983. *O zvukovyx i slovarnyx sootvetstvijax severokavkazskix jazykov*. Nal'čik.

Bailey, H.W. 1967. *Indo-Scythian Studies: Khotanese Texts*. VI: *Prolexis to the Book of Zambasta*. Cambridge.

Benveniste, E. 1935. *Origines de la formation des noms en indo-européen*. Paris.

Bernecker, E. 1905-1913. *Slavisches etymologisches Wörterbuch*. Heidelberg.

Bosworth, J. and T.N. Toller. 1898. *An Anglo-Saxon Dictionary*.

Čaraja, P. 1912. Ob otnošenii abxazskogo jazyka k jafetičeskim // Materialy po jafetičeskomu jazykoznaniju. IV. St. Petersburg.

Čikobava, A. S. 1938. *Čansko-megrel'sko-gruzinskij sravnitel'nyj slovar'* (in Georgian). Tbilisi.

Deeters, G. 1957. Bemerkungen zu K. Boudas "Sudkaukasisch-nordkaukasische Etymologien." In: *Die Welt des Orients*. Göttingen.

Diakonoff: *See* D'jakonov.

D'jakonov, I.M. 1982. "O prarodine nositelej indoevropejskix dialektov." *Vestnik drejvnej istorii*. 1982, № 4.

D'jakonov, I.M. and S.A. Starostin. 1988. *Xurrito-urartskie i vostočnokavkazskie jazyki // Drevnij Vostok: ètnokul'turnye sv'jazi* [*The Ancient East: ethnocultural connections*], pp. 164-207, Moscow: Nauka, 1988. [Reprinted (in Russian) in S.A. Starostin's *Trudy po jazykoznaniju* (*Works on Linguistics*), ed. by G.S. Starostin, pp. 359-406. Moscow: Jazyki slav'janskix kul'tur. English version: *Hurro-Urartian as an Eastern Caucasian Language*. München: Kitzinger. 1986. (Ed.)]

Dolgopol'skij A.B. 1974. *O nostratičeskoj sisteme affrikat i sibiljantov: korni s fonemoj *Z*. Ètymologija, 1972. Moscow.

Dumézil, G. 1963. *Caucasique du Nord-Ouest et parlers scythiques*. Istituto orientale di Napoli. Annali. Sezione linguistica. V, Dec. 1963. Rome.

Dybo V.A. 1974. "Afganskoe udarenie i ego značenie dlja indoevropejskoj i balto-slavanskoj akcentologii.Vol. I. Imennaja akcentuacija." In: *Balto-slavjanskie issledovanija*. Moscow.

ÈSSJa = *Ètimologičeskij slovar' slavjanskix jazykov*. 1974-1983. Ed. O. N. Trubačev. Vols. 1-10.

Fasmer, M. 1964-1973. *Ètimologičeskij slovar' russkogo jazyka*. Vols. 1-4. Moscow.

Feist, S. 1939. *Vergleichendes Wörterbuch der Götischen Sprache*. Leiden.

Fraenkel, E. 1962-1965. *Litauisches Etymologisches Wörterbuch*. Heidelberg.

Friedrich, J. 1952-1954. *Heithisches Wörterbuch*. Heidelberg.

Frisk, H. 1960-1970. *Griechisches Etymologisches Wörterbuch*. Heidelberg.

Gamkrelidze, T.V. and Vjač.Vs. Ivanov. 1980. "Drevnjaja Perednjaja Azija i indoevropejskaja problema: Vremennye i areal'nye xarakteristiki obščeindoevropejskovo jazyka po lingvističeskim i kul'turno-istoričeskim dannym." *Vestnik drevnej istorii*, № 3.

Giginejšvili, B.K. *Sravnitel'naja fonetika dagestanskix jazykov.* Tbilisi.

Gudava, T. E. 1964. *Konsonantizm andijskix jazykov*. Tbilisi.

Hamp, E. P. 1958. "Albanian *arë*." In: *KZ* 75: 237 -38.

Horn, P. 1893. *Grundriss der neupersischen Etymologie*. Strassburg.

Hrozný, F. 1913. *Dass Getreide im Alten Babylonien*. I: Sitzungsberichte der Akademie der Wissenschaften in Wien. Phil.-Hist. Klasse. Vienna.

Illič-Svityč, V. M. 1960. "K ètimologii slov 'morkov'' i 'tykva'." *Ètimologičeskie issledovanija po russkomu jazyku*. Issue 1. (Moscow, 1960).

_____. 1964."Drevnejšie indoevropejsko-semitskie jazykovye kontakty." In: *Problemy indoevropejskogo jazykoznija*. Moscow.

_____. 1967. "Materialy k sravnitel'nomu slovarju nostratičeskix jazykov (indoevropejskij, altajskij, ural'skij, dravidijskij, kartvel'skij, semito-xamitskij)." *Ètimologija 1965*. (Moscow, 1967).

_____. 1971-1976. *Opyt sravnenija nostratičeskix jazykov (indoevropejskij, altajskij, ural'skij, dravidijskij, kartvel'ski, semito-xamitskij)*. Vol. 1, Moscow, 197l; vol. 2, Moscow, 1976.

Imnajšvili, D. S. 1977. *Istoriko-sravnitel'nyj analiz fonetiki naxskix jazykov*. Tbilisi.

Ivanov, V. V. 1975. "Rekonstrukcija indoevropejskix slov i tekstov, otražajuščix kul't volka." *Izvestija AN SSSR. Serija literatury i jazyka*, vol. XXXIV, 5.

_____. 1978. "Razyskanija v oblasti anatolijskogo jazykoznanija." *Ètimologia 1977*, 3-8. (Moscow, 1976).

_____. 1979. "Razyskanija v oblasti anatolijskogo jazykoznanija." *Ètimologia 1977*, 9-16. (Moscow, 1979).

_____. 1982. "Novyj istočnik dlja ustanovlenija indoevropejskix akcentuacionnyx paradigm (Klinopisnye napisanija s glasnymi)." *Balto-slavjanskie issledovaanija 1981*. Moscow, 1982.

_____. 1983. *Istorija slavjanskix i baltijskix nazvanij metallov*. Moscow.

_____. 1985. "Ob otnošenii xattskogo jazyka k severo-zapadnokavkazskim." *Drevnjaja Anatolija*. Moscow, 1985.

Jakovlev, N. F. 1948. *Grammatika literaturnogo kabardino-čerkessogo jazyka*. Moscow-Leningrad.

Kapancjan, F. 1952. *O vzaimootnošenii armjanskogo i lazo-megrel'skogo jazykov*. Yerevan.

Klimov, G. A. 1963. *Ètimologičeskij slovar' kartvel'skix jazykov*. Moscow.

_____. 1969. "Abxazoadygsko-kartvel'skie leksičeskie paralleli." *Ètimologija 1967*. Moscow, 1969.

_____. 1971. "Kavkazskie ètimologija (1-8)." *Ètimologija 1968*. Moscow, 1971.

_____. 1972. "O nekotoryx slovarnyx obščnostjax kartvel'skix i naxsko-dagestanskix jazykov." *Ètimologia 1970*. Mosco, 1972.

_____. 1981. "Neskol'ko kartvel'skix indoevropeizmov." *Ètimologija 1979*. Moscow, 1981.

Kronasser, H. 1956. *Vergleichende Laut und Formenlehre des Hethitischen*. Heidelberg.

Kuipers, A. N. 1963. Proto-Circassian Phonology: An Essay in Reconstruction. The Hague.

_____. 1975. *A Dictionary of Proto-Circa ssian Roots*. Lisse.

KZ. = *Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der indogermanischen Sprachen*. Berlin.

Lafon, R. 1933. "Le nom de "l'argent" dans les langues caucasiques." *Revue Hittite et Asianique*, II, fasc. 10-11 (janvier et avril), 1933. Paris.

Lieberman, S. *The Sumerian Loanwords in Old-Babylonian Akkadian*. Missoula, Montana.

Mayrhofer, M. 1956-1963. *Kurzgefaβtes eymologisches Wörterbuch des Altindischen*. Heidelberg.

Militarev, A. Ju. and S. A. Starostin. 1984. *Ob afraijsko-severnokavkazskix leksičeskix kontaktax*.

MSSNJa. = Illič-Svityč, V, M. 1967. "Materialy k sravnitel'nomu slovarju nostratičeskix jazykov." *Ètimologija 1965* (Moscow): 321-396.

Nikolaev, S. L. & S. A. Starostin. 1984. *Severno-kavkazskie jazyki i ix mesto sredi drugix jazykovyx semej Perednej Azii*.

Nikola(y)ev, Sergei L. & Sergei A. Starostin. 1994. *A North Caucasian Etymological Dictionary*. Moscow: Asterisk Press.

Orel, V. È. 1984. *Očerk sravnitel'no-istoričeskoj grammatiki albanskogo jazyka: Praalbanskoe jazykovoe sostojanie*. (Manuscript.)

Pokorny, J. 1959. *Indogermanisches etymologisches Wörterbuch*. Vols. 1-3. [Based on *WP*.]

Räsänen, M. 1969. *Vergleichendes etymologisches Wörterbuch der türkischen Sprachen*. Helsinki.

Šagirov, A. K. 1977. *Ètimologičeskij slovar' adygskix (čerkesskix) jazykov*. Vols. 1-2. Moscow.

Steblin-Kamenskij, I. M. 1982. *Očerki po istorii leksiki pamirskix jazykov: Nazvanija kul'turnyx rastenij*. Moscow.

Talibov, B. B. 1980. *Sravnitel'naja fonetika lezginskix jazykov*. Moscow.

Terent'ev, V. A. 1979. "Nostratičeskie ètimologii." *Ètimologija 1977*. (Moscow.)

Teubner, J. K. 1977. "Chwaresmisch *kancik* und das Eurasisch-Afrikanische Wanderwort *Hemd/kamisa/kanzu*." *ZDMG*, Supplement III, 2, 1977.

Toller, T. N. 1921. *An Anglo-Saxon Dictionary. Supplement*. Oxford.

Toporov, V. N. 1975-1980. *Prusskij jazyk. Slovar'*. Vol. 1, 1975; Vol. 3, 1980. Moscow.

Troubetzkoy, N. 1921. "Remarkes sur quelques mots iraniens emruntes par les langues du Caucase septentrionales." *Memoires de la Société de linguistique de Paris*. Vol. XXII. Fasc. 5. Paris.

_____. 1922. *Les consonnes laterales des langues caucasiques septentrionales*. Paris.

_____. 1926. *Studien auf dem Gebiete der vergleichenden Lautlehre der nordkaukasischen sprachen*. Leipzig.

_____. 1930. "Nordkaukasische Wortgleichungen." In: *Wiener Zeitschrift für die Kunde des Morgenlandes*. Vol. XXXVII. Hefte 1-2. Vienna.

_____. 1931. *Die Konsonantensysteme der ostkaukasischen Sprachen*. Leipzig.

Trubačev, O. N. 1975. "Neskol'ko drevnix latinsko-slavjanskix parallelej." *Ètimologija 1973*. (Moscow.)

_____. 1979. "Tavrskie i sindomeotskie ètimologii." *Ètimologija 1977*. (Moscow, 1979.)

Turner, K. L. 1966. *A Comparative Dictionary of the Indo-Aryan Languages*. Leningrad.

Vasmer: *See* Fasmer.

Vinogradova, O. I. and G.A. Klimov. 1979. "Ob armenizmax v dagestanskix jazykax." *Ètimologija 1976*. Moscow, 1977.

Vries, J. de. 1961. *Altnordisches Etymologisches Wörterbuch*. Leiden.

Walde, A. 1906. *Lateinisches Etymologisches Wörterbuch*. Heidelberg.

WP. = Walde, A. 1927-1932. *Vergleichendes Wörterbuch der indogermanischen Sprachen*. Published and revised by J. Pokorny. Vols. 1-3. Berlin-Leipzig.

ZDMG. = Zeitschrift der Deutschen Morgenländischen Gesellschaft.

ABBREVIATIONS OF NAMES OF LANGUAGES AND DIALECTS

Abaz.	Abaza
Abkh.	Abkhaz
Ad.	Adygh
Adzh.	Adzhar dialect of Georgian
Afgh.	Afghan
Ag.	Agul
Ak.	Akushi dialect of Dargwa
Akht.	Akhty dialect of Lezgi
Akhv.	Akhvakh
Akk.	Akkadian
Alb.	Albanian
Alt.	Proto-Altaic
And.	Andi
Arab.	Arabic
Arak.	Arakul dialect of Lak
Arch.	Archi
Arm.	Armenian
Av.	Avar
Avest.	Avestan
Bagv.	Bagvalal
Balt.	(Proto-) Baltic
Bartkh.	Bartkhi dialect of Lak
Bezht.	Bezhta
Bret.	Breton
Btsb.	Bats(bi), Tsova Tush

Bud.	Budukh
Burshch.	Burshchag dialect of Agul
Bz.	Bzyb dialect of Abkhaz
Celt.	Celtic
Cham.	Chamalal
Chan.	Chan
Chech.	Chechen
Chir.	Chirag dialect of Dargwa
Darg.	Dargwa
Dyub.	Dyubek dialect of Tabasaran
Egyp.	Old Egyptian
Fit.	Fite dialect of Agul
Geg.	Geg dialect of Albanian
Gel’m.	Gelmets dialect of Tsaxur
Georg.	Georgian
Germ.	(Proto-) Germanic
Gk.	Old (Classical) Greek
God.	Godoberi
Goth.	Gothic
Hatt.	Hattic
Hier.-Hitt.	Hieroglyphic Hittite
Hin.	Hinukh
Hitt.	Hittite
Hunz.	Hunzib
Hurr.	Hurrian
Ing.	Ingush
Inkh.	Inkhokvari
Ir.	Irish
Iran.	Iranian
Ital.	Italian
Kab.	Kabardian
Kad.	Kadar dialect of Dargwa
Kait.	Kaitag dialect of Dargwa
Kar.	Karata
Kartv.	Kartvelian
Kharb.	Kharbuk dialect of Dargwa
Khin.	Khinalug
Khv.	Khvarshi
Khyur.	Khyürig dialect of Tab.
Kryz.	Kryts
Kub.	Kubachi dialect of Dargwa
Kurd.	Kurdish
Lak.	Lak(i)
Lat.	Latin

Latv.	Latvian
Laz.	Laz
Lezg.	Lezgi
Lith.	Lithuanian
Megr.	Megrelian
MHGerm.	Middle High German
MIran.	Middle Iranian
MLGerm.	Middle Low German
MPers.	Middle Persian
Nostr.	(Proto-) Nostratic
OBret	Old Breton
OEng.	Old English
OGk	Old Greek
OHGerm.	Old High German
OIc.	Old Icelandic
OInd.	Old Indic (Vedic, Sanskrit)
OIr.	Old Irish
OIran.	Old Iranian
OLGerm.	Old Low German
OLith.	Old Lithuanian
OPruss.	Old Prussian
ORuss.	Old Russian
Osc.-Umbr.	Osco-Umbrian
OSlav.	Old Slavic
Osset.	Ossetic
PA	Proto-Andi
PAK	Proto-Adygh-Kabardian (Proto- Adygh, Proto-Circassian)
PAT	Proto-Abkhaz-Tapant (Proto-Abkhaz-Abaza)
PEC	Proto-East Caucasian
Pehl.	Pehlevi (Middle Persian)
Pers.	Persian
PHB	Proto-Hunzib-Bezhta
PIE	Proto-Indo-European
PL	Proto-Lezgian
PN	Proto-Nakh
PNC	Proto-North Caucasian
Prakr.	Prakrit
PTs	Proto-Tsezian
PTsKh	Proto-Tsez-Khwarshi
Punjab.	Punjabi
PWC	Proto-West Caucasian
Rheto-Rom.	Rheto-Romanian
Russ.	Russian
Rut.	Rutul
Sax.	Saxon

Sem.	(Proto-) Semitic
Sem.-Ham.	(Proto-) Semitic-Hamitic (Proto-Afro-Asiatic)
Shaps.	Shapsug dialect of Adygh
Sirg.	Sirgokala dialect of Dargwa
Slav.	Proto-Slavic
Sum.	Sumerian
Svan.	Svan
Swed.	Swedish
Tab.	Tabasaran
Tind.	Tindi
Tl.	Tladal dialect of Bezhta
Tok.	Tokita dialect of Karata
Tokh. A	Tokharian A
Tokh. B	Tokharian B
Tsakh.	Tsakhur
Tsez.	Tsez
Tsud.	Tsudakhar dialect of Dargi
Tung.	Proto-Tungus-Manchu
Turk.	Proto-Turkic
Ub.	Ubykh
Ud.	Udi
Ur.	Urartian
Ural.	Proto-Uralic
Urakh.	Urakhi dialect of Dargwa

MOTHER TONGUE
Journal of the Association for the Study of Language in Prehistory • **Issue XXI • 2016**

Notes to "Indo-European-North Caucasian Isoglosses"

John D. Bengtson
Association for the Study of Language in Prehistory

As mentioned in footnote 1, the above paper was first published in Russian, in 1988, and as far as we know, S.A. Starostin never revised it. Since then the *North Caucasian Etymological Dictionary* (NCED) was published in Moscow in 1994, providing the most comprehensive and authoritative compilation of North Caucasian (NC) etymologies (see references, below). NCED has been sharply criticized (notably by Johanna Nichols and Wolfgang Schulze; see the latter's article in this issue, and Chirikba's response), but has also been "accepted and endorsed by some of Russia's leading specialists in Caucasian languages" (Bengtson & Starostin 2015, p. 25). In any case, no one to date has produced an alternative North Caucasian dictionary. Another point is that the precise forms of the NC reconstructions have sometimes changed, more or less significantly, between the 1988 article and the 1994 dictionary. For these the reader is referred to the dictionary itself, or its online version.[1]

Another development since 1988 has been the gradual integration of the Basque language into Starostin's "Sino-Caucasian" macrofamily, mainly through collaborative work since 1996 between S.A. Starostin and John Bengtson, with assistance from Václav Blažek, Alexei Kassian, and George Starostin. Most of this work was done through the Evolution of Human Language Project (EHL), sponsored by Santa Fe Institute. A consensus has formed among these researchers, based on lexicostatistical and grammatical analyses, that Basque and the North Caucasian languages form a distinct branch ("Euskaro-Caucasian") of Sino-Caucasian. A milestone was the integration of the Basque Etymology Database (BED) into the Tower of Babel/EHL website,[2] in 2005; a revised version was put online in 2015. Simultaneously the Basque etymologies were integrated, where relevant, into the Sino-Caucasian Etymology Database. Finally, a comprehensive monograph about the lexicon, grammar, and phonology of Euskaro-Caucasian has recently been published (Bengtson 2017).

Regarding Starostin's Indo-European–North Caucasian lexical comparisons, it appears that about three dozen of the NC lexemes cited also have Basque cognates. Of course the difference is that Starostin was citing the IE–NC parallels as evidence of NC substratal influence on IE, while the NC–Basque lexical parallels in the BED and in Bengtson (2017) are cited as evidence of a genetic relationship between NC and Basque.

In the following list the IE lexemes cited by Starostin are ignored, and the Basque lexemes from Bengtson (2017) are added, along with some explanatory notes. The letter.number symbols such as *N.10* refer to Euskaro-Caucasian etymologies in Bengtson (2017). I have also added the NC reconstructions from NCED, which frequently differ from those offered in the 1988 article.

1.3. **PEC *q̇oIcV* 'goat, she-goat, kid'** [= **q̇HŏcV* in NCED]: cf. **Basque **koco* 'male quadruped'**: (L-arc, BN) *kotzo* (Pouvreau, 17th c.), (BN) *kotxo, koxo, krotxo, khotzo*, (Z) *khotxo* id.; occasionally 'human male' (*gizon koxoa*) (*N.10*).

---

[1] The preface, list of abbreviations, bibliography, and introduction (including a thorough comparative phonology), comprising pages 1-199, and are available on the Tower of Babel Electronic Library at http://starling.rinet.ru/texts_new.php?lan=en . The NC etymologies are accessible at http://starling.rinet.ru/cgi-bin/main.cgi?

[2] http://starling.rinet.ru/cgi-bin/main.cgi?

1.6. **PNC *p̄äHäƛ̣wV ‘livestock’** [= **bhăƛ̣wí* ‘small cattle’ in NCED], Bezhta, Hunzib *bitƛ’* ‘(a) sheep’: cf. **Bsq *bil-oć* ‘lamb’**: (c) *bildots* ‘lamb (that has begun to feed itself)’, *bildos-ki* ‘lamb (meat)’. Forms without /d/, (B) *billos, billotz, billotx* ‘lamb’, (BN) *bilos-tegi* ‘sheep-fold’ and (B) *billos-narru* ‘lamb’s hide’ indicate earlier **biloć* (*N.20*).

1.7. **PNC *wāIrƛ̣ƛ̣wə ‘pig, swine, sow’** [= **wHārƛ̣wə* in NCED]: cf. **Bsq *urde* ‘swine, pig’, *ord-oć* ‘boar’**: (c) *urde*, (Z) *úrde* ‘swine, pig’; secondarily ‘dirty’; also (c) *ordots, ordotz*, *ordotx* ‘boar’, probably a haplologic compound of **urde* + **oroć* ‘male animal’ (*N.21*).

1.8 **PEC *ʔIīć̣wilV ‘heifer’** [= **Hć̣wīlV̄* ~ **Hlīć̣wV̄* in NCED], Avar *ʕač’ár* ‘heifer’: cf. **Bsq *čahal* ‘calf, heifer’**: (BN, L) *xahal* [šahal] ‘calf’, (Z) *xáhal* ‘calf, heifer’, (B) *txaal,* (B, G) *txal* [čal], (R) *xãl* [šãl], (Sal) *xal* id. (*N.11*).

2.1. **PEC *hIānqqV ‘hip, part of the leg’** [= **ʔānq̱V* in NCED]: ? cf. **Bsq *ɦanka* ‘foot, leg, paw’** / ‘pie; pierna, pata (de persona o animal)’: (c) *hanka* ‘leg; foot; paw (of an animal)’, (Z) *ã́nka* ‘pied, patte, jambe’, etc. § In earlier publications I confidently offered Bsq **ɦanka* as a genetic cognate of the PEC word, but most Vasconists are quite adamant that the Bsq word is a recent loanword: “From Rom. (probably Occ[itan].) *anca* ‘haunch’, ultimately from Gmc. (probably Frankish) **hanka* ‘haunch’. This word is widespread in Romance: Occ. Cat. Cast. It. *anca*, old and modern Fr. *hanche*, all ‘haunch’ but with T[ransferred] S[ense]s like ‘ham’, ‘leg’ ” (Trask 2008). On the other hand, the supposed “Frankish **hanka*” is elusive to pin down; it is not found in the standard Germanic etymological dictionaries I consulted.

2.5. **PNC *q̇ămq̇ə ‘a part of the foot’** [= **q̇ămq̇(w)ă* in NCED], Dargi Kadar *q’unq’a* ‘knee’: cf. **Bsq *konko-ṙ* ‘hump, joint’**: Basque (c) *konkor* ‘hump, bump, knob’, (B, G) ‘hunchbacked’, (R) *kunkur* ‘joint (of bones)’, (AN, BN, Z, R) ‘hunchback’, (Bzt) *purdi-konkor* ‘tailbone, coccyx’ (with **(e=)purdi*, ‘buttocks, arse’), (B) *az-konkor* ‘finger joints’ (with **hac* ‘paw, finger’), (R) *eri-kunkur* id. (with **elhi* ‘finger’), *belain-kunkur* ‘kneecap’, etc. (*A.76*).

2.10. **PEC *pwərccV ‘paw; ham, gammon’** [= **b[ə]cV* in NCED], Inkhokwari *buso* ‘fist’: cf. **Bsq *borc / *bośt* ‘five’, *bośte-ko / *borce-ko* ‘hand’**: (AN, BN, L, R, Sal, Azk) *bortz* ‘5’, (AN, Bzt, R) *borz*, (B, G, AN, BN, Z, R) *bost*, (AN, G) *bos* ‘5’; (B, G) *bosteko* ‘hand’, (L) *bortzeko* id. (*M.6*). § NCED notes that “In Av[ar] -r- is probably secondary (*púrc:i* < **bVc:-ri* with secondary assimilation *b- > p-), since no resonant is present in related EC forms.” However, if Starostin’s proposal that PIE **pērs-nā* was borrowed from North Caucasian is correct, it would be additional evidence, besides Avar *púrc:i* ‘ham’ and Bsq **borc* ‘five’, that the PEC form was actually **b[ə]rcV*.[3]

2.11. **PEC *χwinḳwV ‘fist’** [= **fimḳwV* in NCED], Bagwali *hunk’a* ‘fist’: cf. **Bsq *hu[m]ki-tu* ‘to touch, feel’**: (BN, L) *hunki-tu* ‘to touch, feel’, (Z) *húnki-tü*, (Sal) *onki-tu, ongi-tu*, (AN, Azk, G, L) *uki-tu*, (B) *uku-tu*, (B, G) *iku-tu* id.; (L) *uki* ‘touch, feeling’, (Bzt) *uki-tze* id. (*V.13*). § The match of eastern Bsq /nk/ ~ western /k/ is unusual. PSC **m* is unstable and in Bsq usually disappears in clusters. I have tentatively reconstructed Bsq **hu[m]ki-*, though so far I know of no other cases of Bsq *-mk-*.

---

[3] It seems likely that Bsq **borc* and **bośt* were originally stem variants (allomorphs) in an earlier grammatical system. A similar patterning is seen in Bsq **berc* / **beśt* ‘cauldron, pail’, **ɦerce* / **ɦeśte* ‘intestine’, **ɦorci* / **ɦośti* ‘sky, storm’, and **mucu-ṙ* (< **murcu-ṙ*) / **muśtu-ṙ* ‘snout; edge, extremity’

2.12. **PNC _*p̄üggV_ ‘side, part of the body from the armpit to the hip’** [= _*büga_ in NCED], Rutul Ikhrek _beɣ_-da ‘near, at the side of’: cf. **Bsq _*bage / *gabe_ ‘without, lacking’**: (B, G, R) _bage_ ‘without’ (prep.), ‘needy, lacking’ (adj.), (B) _baga_ id; with metathesis: (EB, G, AN, BN, L, Z, Azk, Sal) _gabe_ id.; also as a suffix, e.g. (B) _gaz-bage, gaz-baga_, _gaz-gabe_, (EB) _gaz-kabe_ ‘without salt, unsalted, insipid’ (_I.5_). § The Bsq-NC semantic connection is rather tenuous, something like ‘side > beside, aside, outside > without’. For typology cf. OInd _sanutar_ [adv.] ‘away, aside’, Gothic _sundro_ ‘apart, aside’, OHG _suntar_ ‘without’, Latin _sine_ ‘without, -less’, etc.; OInd _bahís_ ‘outside’ ~ Slav _bez_ ‘without, -less’, etc.

2.13. **PNC _*c̄wăjmi_ ‘bile, gall’** [= _*cwăjmĕ_ in NCED]: cf. **Bsq _*beha-sun_ ‘bile, gall’**: (BN) _behazun_ ‘bile, gall; hatred, bitterness’, (G, AN) _beazun_, (B, AN) _biazun_, (B) _beaztun, biaztun_ id., (B) ‘gall bladder (of fish)’, (B) _biastun_, (L) _behazuñ_, _beazuma_ ‘bile, gall’; (L-arc) _behazune_ ‘affliction (woe, anguish)’ (_A.88_). § The Bsq word is a compound of _*beha-_ + _*-sun_, or _*-stun_, the latter part of which is compared with the EC words. Bsq (dial.) bea-_zuma_ ‘bile, gall’ is convergently similar to Dargi Chiragh _sume_ ‘gall, anger’.

2.17. **PEC _*ʔərəc̄wV_ ‘bottom, anus’** [= _*ʔrəyc̠wĕ_ ‘hind, bottom’ in NCED]: cf. **Bsq _*e=rece_ ‘corner, edge, side’**, etc.: (BN, Z) _eretze_ ‘part, side; site, location; position’, (Z) _é(r)etz_ id., (G) _ertze_ ‘corner, edge, bank, side; fringe (of garment); part(ing) of hair’, (B, G, AN) _ertz_ id., _itsas-ertz_ ‘seashore’; (B) _ertz_ ‘female genitals’ (_I.3_). § Note the semantic convergence of Bsq (B) _ertz_ ‘female genitals’ and Avar (Chadakolob) _roc_ (_rots_) ‘vagina’.

3.1. **PEC _*HVbVgV/*HVgVbV_ ‘a kind of cereal’** [= _*ħwVgəbV̆_ / _*ħwVbəgV̆_ in NCED]: cf. **Bsq _*ogi_ ‘bread, wheat’**: (c) _ogi_ ‘bread’, (AN, L, BN, Z) ‘wheat’, (AN) _ugi, oi_, (B, AN) _obi_ ‘bread’ (O.9).

3.2. **PEC _*ʔĕqV_ ‘vineyard, fruit** (juicy, edible)’: cf. **Bsq _*ok-_**_arhan_ **‘plum’**: (B, G, AN) _ok-aran_ ‘plum’, (AN) _ok-arin_, _uk-arain_ id., (B) _txarri-ok-aran_ ‘sloe’ (_P.16_). § _*ok-arhan_ may originally have designated the cultivated plum (cf. Lak _aq_ ‘garden’, etc.) as opposed to wild plums and sloes (_*arhan_).

3.9. **PNC _*pwīIlV_ ‘a kind of leaf-bearing tree’** [= _*pħīlV_ in NCED]: cf. **Bsq _*es-pel_ ‘box tree’**: (c) _ezpel_ ‘box tree’, (R, Sal) ‘broom’ (implement), (Z, R) _ezpel_-dói ‘box scrub’ (_C.11_). § This is possibly a compound of _*es-_ ‘tree’ (a reduced form of _*haice_ ‘tree’: see 3.20, below) and _*-pel_. Cf. _*es-kuṙ_ ‘acorn, beechnut’.

3.10. **PEC _*pinç̣çwV_ ‘resin, juice, sap’** [= _*pĭnc̠wĂ_ in NCED]: cf. **Bsq _*pista_ ‘rheum’**: (B) _pizta_ ‘fresh rheum; sleep sand, (secretion from eyes)’, (B, G) _pista_ id. § One of the rare Bsq _*-st-_ correspondences to PNC tense _*c̠_ (_A.79_). | For the sound correspondence cf. Bsq _*hestu-n_ ‘ring, link’ ~ PEC _*HV̆c̠V_ ‘ring, bracelet’. The meaning of Bsq _*pista_ ‘rheum’ is close to that of Lak _pic’_ ‘sweat, dew’.

3.11. **PEC _*biInḳḳwV_ ‘fir, spruce, pine’** [= _*bħĭnḳwV_ in NCED]: cf. **Bsq _*muki_ ‘gum, resin; mucus’**: (Bzt) _muki_ ‘gum, resin of trees; snot’, (B, G, AN, Azk, Sal) _muki_ ’mucus, snot’ (_C.29_). § In some of the Bsq words there appears to be blending with _muku_ ‘mucus, snot’ < Lat. _mīcum_. Bsq _*muki_ exhibits the regular change of _*bVnk_ > _*mVk_, with convergent changes in some NC languages, _e.g._ Tabasaran _muk’-ruk’_ ‘fir-tree’ (_-ruk’_ = “some obscure second element”).

3.12. **PEC _*wēIrqwi_ ‘birch’** [= _*wē[r]qwV_ in NCED]: cf. **Bsq _*burki_ ‘birch tree’**: (BN) _burkhi_ ‘birch tree’, (Z) _búrkhi_, (G) _epurki_, (L) _urkhi_, (B, G, AN) _urki_ id.; (B) _turki_ ‘birch’ (_C.8_). § The genetic cognacy of Bsq _*burki_ with PEC _*wē[r]qwV_ seems doubtful; from a phonetic standpoint, PEC _*-rq-_ should match Bsq _*-k-_, not _*-rk-_; also we would expect initial _*u-_, not _*bu-_. The Bsq word obviously resembles IE words for ‘birch’, but cannot be derived phonetically from any actual forms. V. Blažek (p.c.) has suggested derivation from a hypothetical Gothic _*burki_ or _*burkja_, an ablaut variant of NWGmc _*berkjō(n)-_.

3.13. **PNC _*p̄ŏInqqwe_ 'oak, wood'** [= A. _*mħĕrqwĕ_ 'birch; wood, timber' + B. **_*mħŏqwe_ 'oak tree'** + C. _*mĕ[l]ɢ̱wɨ̆_ 'alder tree' in NCED];[4] to B., cf. **Bsq _*moku-ṙ_ 'tree-trunk, log'**: (B) _mukur, mokor_ 'trunk, base of tree; thick branch', (R-Uztárroz) _mokor_ 'stunted, rounded tree', (Z) _mū́khür_ 'stout log' (_C.42_).

3.14. **PEC _*bVrč̣-inV_ 'a kind of cereal, barley'** [= _*bħĕ[r]č̣i-nV_ in NCED]: cf. **Bsq _*bihi_ 'seed, grain, fruit'**: (BN, L) _bihi_ 'seed, grain; (a) little', (Z) _bíhi_ 'seed, grain, fruit, (a) little', (Bzt) _bigi_ 'seed, grain', (AN [Lezaka, Oyarzun]) _bi_ (_O.7_). § For the correspondence of Bsq _*-h-_ ~ PEC _*-rč̣-_, see Bengtson (2017, pp. 195-200, 219-24).

3.15. **PEC _*nə̄Hə̄ç̣çwV_ 'cane, rush, reed,** rush (with spongy stem)' [= _*ç̣wə̄nHē_ / _*Hnə̄ç̣wē_ in NCED]: cf. **Bsq _*si(n)Hi_ 'rush, reed'**: (B [Arratia, Orozko, Txorierri]) _zii_ 'rush, reed', (B [Durango, Gernika, Mañaria]) _zi_, (B [Plencia, Arratia, Orozko]) _ziri_ id. (_C.24_). § A western Bsq (Bizkaian) etymon. Proto-Bsq could have been _*sinHi_, but there is no evidence of nasal vowels in the extant forms (no B-arc or Z, R forms).

3.17. **PEC _*λwint̄V_ 'firewood, wood'** [= _*λwɨndV_ in NCED]: cf. **Bsq _*i=łhinti_ 'firebrand, ember'**: (Z) _ilhĩ́nti_ 'firebrand, ember', (Z-arc) _hilindi_, (L) _ilhendi,_ (R) _ilinti_, _illindi,_ (B) _ilinti, ilindi, illenti,_ (B, G, AN, L) _illeti_, (Sal) _illendi_ id.; with expressive /č/: (BN) _itxendi_, (BN, L) _itxindi_ id.; (AN, Bzt, Sal, L) _ilindi_ 'dead ear of wheat' (< 'dry thing'?) (_F.3_).

3.18. **PEC _*λwinʔi_ 'seed [in part, flaxen]'** [= _*λwĭnʔɨ̄_ in NCED]: cf. **Bsq _*a=łhe_ / _*a=łhon-_ 'seed, grain'**: (B, G, AN, Azk, Sal) _ale_ 'seed', _ale-tegi_, _ale-toki_ 'granary, barn', (G [Zarauz]) _alon-tza_ 'mixture of grain (wheat + rye)', (BN) _alhor_ 'field (prepared for sowing)', (Z) _álhor_, (G, AN, L) _alor_, (R, Sal) _alur_ id. Probably also _*al-_ in (G, AN) _alkotz_, (B) _algotz_ 'husk, bran' (_C.32_).

3.20. **PNC _*ʔăǯwV_ 'bush; tree'** [= _*Hă(r)ǯwē_ in NCED]: cf. **Bsq _*haice_ 'tree'**: (R) _atze_ id., (BN, L) _zu-haitz_, (Z) _zü-haitz_, (G) _zu-gaitz_, (B, G) _zu-gatz, zu-atz_ id. (_C.1_). § Free-standing in R, elsewhere this element is in a compound with _*sul_ 'wood' (_Q.51_). Cf. _*es-_ (a reduced form) in Bsq _*es-pel_ 'box tree' (see 3.9, above) and _*es-kuṙ_ 'acorn, beechnut'.

3.21. **PNC _*ʔăjʒăłħV_ 'rowan; cornel'** [= _*ʔăjʒăłʔV_ in NCED]: cf. **Bsq _*haraic_ 'oak tree'**: (BN, L) _haritz_ 'oak tree', (Z) _há(r)itx_, (AN) _aritz_, (A, B-arc, R) _aretx_, (G) _araitz, areitz_, _aritz_ id., (B) _aritz, aritx, aretx_ 'oak tree; tree (general)', (B) _zul-aritz_ 'wild tree', etc. (_C.6_) § The Bsq-NC comparison implies metathesis of the PNC form such as _*Hăłʔăjʒ V_ > Bsq _*haraic_. The tree species denoted are varied, but all are deciduous. (Cf. the semantic range in the IE etymology cited by Starostin in set 3.13: Gk.φηγός 'oak'; Lat. _fāgus_ 'beech' …; Kurd. _būz_ 'a kind of elm'; … Slav. _*buzъ_, _*bъzъ_ 'elder'.)[5]

3.22. **PNC _*ʕäImćə(-a)_ 'apple; medlar'** [= _*ʕämćō_ in NCED]: cf. **Bsq _*mahać_ 'grape(s)'**: (BN, L) _mahats_ 'grape(s)', (Z) _mã́hãts,_ (B) _magats_, _maats, matz_, (B, G, AN, Bzt, Sal, R) _mats_ id., etc. (_P.17_) § The Bsq-NC comparison requires metathesis of the type _*m[a]ʕ[a]ćV_ > Bsq

---

[4] The NC forms cited under 3.13 in the 1988 article are later divided among three separate etymologies in the 1994 dictionary: the WC forms in A, the Avar, Andian, Dargi, and Lezgian ones in B, and the Tsezian in C. Bsq _*moku-ṙ_ is compared only with B.

[5] Some of these proposed cognates are disputed: Blažek (2000/2001) rejects Kurdish _būz_ and Slav. _*buzъ_, _*bъzъ_ and substitutes a different Iranian cognate, Gilani _faɣ_ / _fiɣ_ 'hornbeam', Indic forms like Panjabi _phāg_ 'fig tree', and Slavic forms like Russian _bagór_ 'long wooden pole with iron extension and hook' (< '*pole made of beech'), all indicating that the PIE second consonant was velar _*g_, not palatal _*ĝ_. Either way, wide semantic variations in etyma denoting species of tree are well established.

**mahać*. Cf. the metathesis in Adyge *nāptsa* ‘medlar’ < **bantsa* < **bVmc:ʷV* (NCED). **bantsa* is remarkably similar to Michelena’s reconstruction **banats* ‘grapes’. The semantic change of Bsq ‘grape’ ~ NC ‘medlar, apple’ ~ Burushaski **[m]ići-l* ‘pomegranate’ should not be surprising: cf. Rum *poamă* ‘fruit, apple’, dialect ‘grape’ ~ Fr *pomme* ‘apple’, etc.; and other ‘fruit’ etymologies.

4.10. **PEC **χIwĕrV* mill, millstone’** [= **HĕmχwV-rV* in NCED]: cf. Bsq **eihera* ‘mill’: (BN) *eihara* ‘mill (for grain)’, (L) *eihera*, (Z) *eihé(r)a*, (BN, L) *ihara*, (AN) *igara*, (Sal) *eiara* id., etc. (*Q.20*) § A northeastern Bsq derivative of **eiho-* ‘to grind’ (= PEC **HĕmχwV* ‘to grind’).

4.12. **PEC **čaIłe* ‘enclosure, pen, sheepfold, fence’** [= **čɦałē* in NCED]: cf. **Bsq **śale > *śare* ‘net, grill’**: (c) *sare* ‘net, network’, (B) *sale* ‘grill in front of manger’, (AN) *sare* id., (BN) *sare* ‘manger’; compounds: (AN) *saroe* ‘sheepfold, barn’, (G) *sarobe*, (G, AN, BN, L, Bzt) *saroi,* (R) *saroĩ*, (Sal) *saure*, (AN, Azk) *sario* id., etc. (< **śare* + **ohe* ‘bed’), etc.; (B, G) *sal-etxe* ‘sheepfold, barn’ < **śal-* + **e=će* ‘house’ (*Q.7*).

5.1. **PEC **ʔār(H)V* ‘field, plain’** [= **ʔārV* in NCED]: cf. **Bsq **ɦaran* ‘valley’**: (BN, L) *haran* ‘valley’, (B, G, AN, Z, R) *aran* id.; place names *Harana* (1291 CE), *Farana* (1236 CE), (Z) *A(r)améltze* ‘black valley’ (**ɦaran* + **b=elc* ’black’) (*D.7*).

5.2. **PEC **ʕŭć̣ć̣ŭrV / *ʕŭrŭć̣ć̣V* ‘meadow, glade, clearing’** [= **Hć̠Vrē / *HrVć̠ē* ‘clearing, uncultivated land’ in NCED]: cf. **Bsq **čaṙ* ‘bad’** (< ‘*wild’): (BN, Z) *txar* ‘bad, shoddy, of poor quality, unsatisfactory’, (L) ‘naughty’, (L, BN, Z, R, AN) ‘small’, (B, G, L, BN) ‘delicate, weak, feeble’, (B, G, AN) ‘bad’. Augmentative *tzar* (L, BN, Z) ‘bad, perverse, wicked, evil’ (*R.5*). § The conventional derivation from Bsq **sahaṙ* ‘old’ is less plausible, for phonetic and semantic reasons. The Bsq meaning ‘bad’ is related to the NC meaning ‘wild’: cf. the convergent semantics in Lezgian languages: Agul (Burshag) *č’ire-r* ‘bad, dirty’, Tabasaran *č’uru* ‘bad; wild (of plants)’, etc.

5.3. **PEC **ʒʒəlHV* ‘plain, plateau’** [= **ʒ̠əlV* in NCED]: cf. **Bsq **sełhai* ‘plain’**: (BN, L) *zelhai* ‘plain, flat land’, ‘flat’ (adj.), (G, Bzt) *zelai* id., (B) *zelai* ‘plain, ground’, (AN) *zelai* ‘plain, field’, etc. (*D.5*).

5.4. **PEC **mŏrqqwV* stripe, strip, mark’** [= **mŏrq̠wV̆* in NCED]: cf. **Bsq **muga* ‘boundary, limit’**: (c) *muga* ‘boundary, limit’, (G) *mua*; also (B, G, AN, L) ‘occasion, moment’, (L) ‘season’, (c) *mugarri* ‘boundary stone’ (**muga* + **haṙi* ‘stone’), etc. (*L.2*).

5.8. **PNC **ḳĕrḳĕlV/*ḳĕrḳĕnV* ‘pebble’, grain, seed, kernel [dim.]; egg’** [= **ḳV̆rḳV̆(-nV)* ‘small stone, grain, egg’ in NCED]: cf. **Bsq **kankano* ‘fruit-stone, kernel’**: (B [Oñate]) *kankano* ‘large fruit-stone, kernel, almond’; secondarily (B, Bzt, Sal) *kankano* ‘large awkward man’ (*C.34*). § If /r/ in **ḳV̆rḳV̆-* was original, Bsq has assimilated the first resonant to the following /n/ (cf. the dissimilation in Latin *cancer* ‘crab’ < **karkro-*).

5.11. **PNC **čVq̇q̇IwV* ‘faeces, excrement, mud’** [= **č̠Hĭq̇wĂ* ‘dung, ordure, dirt’ in NCED]: cf. Bsq **esko* (**e=sko*) ‘wax’: (G, BN, L, Z) *ezko* ‘wax, candle’ (originally ‘beeswax’) (*A.85*). § Bsq **esko* is syncopated in the usual way, from **e=Seko*, or the like. The closest NC semantic parallel is Budukh *č’uq’* ‘ear-wax; rheum; mold; fish eggs’; cf. Kryz *č’äq* ‘rheum’, Tsakhur *č’uq’ˤ* ‘rheum’, etc.

5.14. **PEC **hwĭmĭʒʒu* ‘honey’ / **mĭʒʒV* ‘sweet’** [= **hwmĭʒū / *mĭʒ̠V* in NCED]: cf. Bsq **esti* ‘honey / sweet’: (c) *ezti* id. (*P.21*) § The Bsq phonetic development was something like **emsti* > **ẽsti* > **esti* (cf. Archi *ic’* ‘sweet’, *imc’* ‘honey’, etc.). The correspondence of Bsq **-st-* = PNC (tense) **-c̠-*, **-c̠-*, **-ʒ-*, under certain conditions, is recurrent (see also 3.10, above).

5.15. **PNC **renχ̄wV* ‘butter; milk’** [= **rĕnχwĂ* in NCED]: cf. **Bsq **ɦaragi* ‘meat, flesh’**: (BN, L) *haragi* ‘meat, flesh’, (A, B, G, AN, R) *aragi* id., (Z) *a(r)ági* id. (*P.11*). § Not quite clear phonetically. Bsq **-g-* = PNC **-nχ-* is normal and recurrent, but initial **ɦ* is puzzling.

Additional abbreviations and references:

AN	alto-navarro = High Navarrese (Basque)
arc	archaic
Azk	Aezkoan (Basque)
B	Bizkaian (Basque)
BN	basse-navarrais = Low Navarrese (Basque)
Bsq	Basque
Bzt	Baztanese (Basque)
c	common or standard (Basque)
G	Gipuzkoan (Basque)
L	Lapurdian (Labourdin) (Basque)
PSC	Proto-Sino-Caucasian
R	Roncalese (Basque)
Sal	Salazarese (Basque)
Z	Zuberoan (Souletin) (Basque)

Bengtson, John D. 2017. *Basque and its Closest Relatives: A New Paradigm*. Cambridge, Mass.: Mother Tongue Press.

Bengtson, John D. & George Starostin. 2015. The Dene-Sino-Caucasian hypothesis: state of the art and perspectives. Discussion draft posted on Academia.edu, 2015.

Blažek, Václav. 2000/2001. The Ever-green 'Beech'-argument in Nostratic Perspective. *Mother Tongue* 7: 83–94.

Nikola(y)ev, Sergei L. & Sergei A. Starostin. 1994. *A North Caucasian Etymological Dictionary.* Moscow: Asterisk Press.

Trask, R.L. 2008. *Etymological Dictionary of Basque*. Ed. by Max W. Wheeler. University of Sussex. Linguist List Publications: http://www.sussex.ac.uk/linguistics/1-4-1-2.html

ASLIP Annual Meeting | December 16, 2017

The annual business meeting of ASLIP was convened on December 16, 2017, 12 noon (EST), at the Department of South Asian Studies, Harvard University, 1 Bow Street, Cambridge, Massachusetts. President Michael Witzel, Administrative Editor Nicholas Davidson, and ASLIP member G.R. Foote attended in person; Vice President John Bengtson (Minnesota), Information Officer Jonathan Morris (Brazil), and ASLIP member Shomarka Keita (Maryland) attended via Skype.

President Michael Witzel called the meeting to order. The existing slate of officers and board members was reelected by a voice vote.

Other business issues discussed:

Publication of Mother Tongue: For the current issue (MT XXI) we are thankful for the generous donation from Jeffrey M. Smith of Greenberg Traurig, LLP (Atlanta) for printing and distribution of MT. Another goal is to publish MT electronically, possibly *only electronically*, to get more young people interested. Many back copies of MT are stored in the Harvard South Asian Studies office, and are available for nominal cost.

ASLIP Website (G.R. "Randy" Foote): ASLIP should set up a more extensive website, more fully searchable by Google. Randy agreed to look into finding a new webmaster (Brita Bengtson has resigned). http://aslip.org/

Other Ideas for ASLIP Development: (a) Polyglot Conference http://polyglotconference.com/; (b) TED talks; (c) ASLIP should become a unit of AAA (American Anthropological Association), with autonomous standing.

Financial Transfers: There is a need to bypass international financial complications that may, for example, wipe out a membership/subscription payment by charging a $30 fee for the check or money transfer. Jonathan Morris suggested using a platform such as *Payoneer* and *Transferwise*. (https://www.payoneer.com/main; https://transferwise.com/ca/) There are probably others. "At present, I'm actively working with *payoneer*, but think that *transferwise* is potentially more interesting and has fewer strings attached. Both are latest generation payment platforms, which offer a sort of the way around the banking system and are a major breakthrough."

Peer Review Committee (Jonathan Morris): There is a need to raise the standard of contributions to *Mother Tongue* – *i.e.*, not to publish under-researched or badly written articles, and my suggestion is to establish a peer review committee, perhaps with a chairperson and with a panel covering various areas of expertise.

General Discussions

Nicholas Davidson expects to publish his book on Indo-Uralic in a few years. Mentioned psychology in history of linguistics. Mentioned (more or less) recent publications of interest for ASLIP officers and members:

Book on Yukaghir by Nikolaeva and relation with Uralic: Nikolaeva, Irina. 2006. *A historical dictionary of Yukaghir*. Berlin/New York: Walter de Gruyter.

New handbook of Ryukyuan languages and connection with Yayoi archaeology, (was 350 BCE), now around 900 BCE: Heinrich, P., Miyara, S. and Shimoji, M. eds., 2015. *Handbook of the Ryukyuan languages: History, structure, and use* (Vol. 11). Walter de Gruyter GmbH & Co KG.

Martine Robbeets on Japanese and Nostratic: Robbeets, Martine Irma. 2005. *Is Japanese related to Korean, Tungusic, Mongolic and Turkic?* Wiesbaden: Harrassowitz. (= Turcologica 64.) 975 pp. [Note also: Robbeets, M. 2008. The historical comparison of Japanese, Korean and the Trans-Eurasian languages. *Rivista degli studi orientali* 81.1/4: 261–287.][1]

Juha Janhunen on Altaic homeland in Manchuria: Janhunen, J. 1996. *Manchuria: An Ethnic History*. Helsinki: Finno-Ugrian Society.

Biogenetics: mtDNA haplogroup M2 existed mostly in Africa at 30 Kya <<and it is the oldest lineage in India!>>. M 35: *Somalia → Egypt, Morocco. Found in Karnataka, India and Nepal; and in Slovakia (via the Roma). Y-chromosome haplogroup M81, the most common in North Africa (the "Berber marker" or "Maghrebi marker," also, in small amounts, in the Iberian Peninsula, Italy, France, Sardinia, Canary Islands, and Latin America), is only 4 k old.

Note: M. Lionel Bender wrote about "Upside-down Afrasian": "Bender (1997, 25, 27) [Upside-Down Afrasian. *Afrikanistische Arbeitspapiere* 50: 19–34.] was – contrary to previous Semito-centric classifications – "*of the opinion that we must 'turn Afrasian upside-down'. Semitic is not typical of Afrasian, but is a relatively recent offshoot of the B(erber-)S(emitic-)Cu(shitic) branch of Afrasian. ... Cushitic is so diverse ... that it is not a single family ... There may really be as many as six families: Beja (North), Afar-Saho, Agaw (Central), Lowland East(,) Highland East, and South Cushitic. If this is true, I would now propose adding Semitic as a seventh family of 'Macro-Cushitic'.'* Another – similarly daring – step in this scenario was '*The possibility of including Indo-European in Macro-Cushitic*' as suggested by Bender (op. cit., p. 28, §5) on the basis of a few isoglosses ..." (Gábor Takács, in *Mother Tongue* XX, p. 24).

---

[1] Shortly after the ASLIP meeting there was a *Workshop on the Historical Comparison of the Transeurasian Languages*, held in Jena, Germany, 9th–11th January, 2018. Under direction of Martine Robbeets, Max-Planck-Institut für Menschheitsgeschichte.

Discussions with Shomarka O.Y. Keita:

Implicit in the ASLIP perspective is looking for connections in what otherwise is a world of discrete language families. I see this conceptually as a kind of bridge making. The race construct and others that seek to create classifications whose units consist of uniform individuals that are mutually exclusive to be treated alone, is a way of searching for discontinuities. We have a dichotomized polarized world. The issue is not whether Nostratic is real, or that Afro-Dravidian or Indo-Pacific are real, but rather what is important is the journey to seek the connections which simply because we are all humans must exist. The issue is not "success" in the effort, but the effort itself.

I think constantly of ways to express the population and linguistic structure before modern sapiens left Africa. There is a directionality that leaves kin along the way that by definition must have a relationship—but it may not be retrievable—things happen that can obscure such history.

I hope that other ASLIP members will call out *Nature Communications*.[2] Any gene language associations are casual not causative. One cannot say remove a language entity from a language family based on biogenetics.

Please do have as many linguists and anthropologists as possible write *Nature Communications* on this piece. We live in a time of fake news, fake "facts," dishonesty, fraud and the re-emergence of overt racism which no doubt will seep into some scholastic attitudes.

---

2. About: Baker, J.L., Rotimi, C.N. and Shriner, D., 2017. Human ancestry correlates with language and reveals that race is not an objective genomic classifier. *Scientific Reports*, *7*(1), p.1572.

MOTHER TONGUE PRESS

Association for the Study of Language in Prehistory

Forthcoming:

A Comparative Description of Minoan, Etruscan and the Languages Related to Them

By Sergej A. Jatsemirskij

This work marks the completion of research which Jatsemirskij (1980–2017) conducted for many years, namely, a study in the field of Tyrrhenian languages: Etruscan, several closely related idioms of the 1st millennium BCE (represented by a much smaller number of inscriptions), and the ancient language of Crete, known as Minoan to the specialists in Mediterranean linguistics, classical philology and ancient history (Sir Arthur Evans's "Linear *A*"). To a certain degree, this publication continues Jatsemirskij's doctoral thesis, defended a few years ago in the Russian State University for the Humanities (Moscow).

The solution of both of the main problems as proposed in said doctorate (the comparative description of phonetics, vocabulary, and morphology of the Tyrrhenian languages of the 1st millennium BCE, and the demonstration of their genetic relationship) has never been objected to by classical philologists or by specialists in comparative and general linguistics. Therefore, the author decided not only to expand and edit the available material but also to conduct a further comparison on a new level, namely, to use for this comparison also the much older Minoan language (2nd millennium BCE) of Crete. This language has always seemed to the author to be genetically related to the Tyrrhenian languages but to use it for the doctorate would have been logically premature: extensive research in this field has never been undertaken.

Naturally, the parts of the study which deal with the Minoan language are much shorter than those dedicated to the Tyrrhenian languages. However, by combining both types of data the author has tried to put the reader into an integrated linguo-historical context, showing that we are dealing not with a handful of isolates (or, for that matter, with 2-3 closely related dialects of a given isolate), but with a group of languages which can be studied both synchronically and diachronically and which have both a center and a periphery. Besides, such partitions allow us to solve several concrete tasks, – for instance, reading and understanding a number of inscriptions; defining many borrowings in Greek; explaining various problems in the history of writing, etc.

The lack of a comprehensive comparative study and the problem of the relationship between the Tyrrhenians and the Cretans themselves made it necessary to present in the main text various results, concerning extra-linguistic data: general information about both Tyrrhenians and Cretans; data about known written documents and the appropriate writing systems.

It is hoped that this publication can be used as a short introduction to the state of contemporary Etruscan and Minoan research.

Forthcoming in 2018: Contact ASLIP officers for information (see inside front cover of this issue).

* * *

Basque and its Closest Relatives: A New Paradigm: An updated study of the Euskaro-Caucasian (Vasco-Caucasian) hypothesis

By John D. Bengtson

ISBN-13: 978-1544641638; ISBN-10: 154464163X; 515 pp.

This book surveys earlier attempts to demonstrate a genetic relationship between the Basque language and various languages in the Caucasus ("Euskaro-Caucasian"), and analyzes their shortcomings in methods and focus, while acknowledging a residue of valid evidence, assembled over the course of more than a century. The author has added to the earlier evidence: the current book proposes more than 600 Euskaro-Caucasian etymologies. The focus is placed on the comparison of Basque with North Caucasian.

The book also includes a comprehensive comparative/historical system of Euskaro-Caucasian phonology, which analyzes regular correspondences of vowels, including a postulated Euskaro-Caucasian ablaut system, vowel umlaut, unit consonants and consonant clusters, and "irregular" phonetic developments (metathesis, haplology, assimilation, dissimilation, expressive forms, contamination and blending).

There is an overall emphasis on lexicon (etymology) and phonology; morphology occupies a comparatively smaller place, though there are discussions of productive and submerged morphology, pronouns, and verbs.

Finally, the book includes the proposal of a holistic anthropological scenario for the Euskaro-Caucasian hypothesis, in which results from genetic linguistics, archaeology, and human genetics are synthesized, concluding that a population speaking a Euskaro-

Caucasian language arrived on the coast of southwestern Europe ca. 7.5 – 8 millennia ago, bearing a Neolithic culture that included cultivation and processing of grain and pulse crops, husbandry of small and large cattle and swine, and dairying practices. Recent genetic results indicate that the transmission of this language and culture to the present-day Basque Country was primarily by demic diffusion, with some secondary admixture with local hunter-gatherers. The evidence shows that the modern Basque language is not a lineal descendant of the unknown language(s) spoken by European Paleolithic hunter-gatherers, but rather the descendant of a colonial language that arrived in Iberia no more than eight thousand years ago.

The book will be of interest for anthropologists and historical linguists, as well as for archaeologists and geneticists interested in cultural diffusion and the origins and dispersals of ethnic groups.

MOTHER TONGUE PRESS
Association for the Study of Language in Prehistory, Inc.
1 Bow Street, 3rd Floor
Cambridge, MA 02138 U.S.A.

Books may be ordered through **amazon.com.**